SERVICE MANUAL SD1015/SD1015R

marantz®

model SD1015/SD1015R

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

U.S.A.
Marantz Company, Inc.
National Service Dept.
P.O. Box 577
Chatsworth, CA91311
U.S.A.

CANADA
Superscope Canada, Ltd.
3710, Nashua Drive
Mississauga, Ontario
Canada L4V 1M5

AUSTRALIA
Marantz Australia
32 Cross Street
Brookvale, NSW 2100
Australia

JAPAN
Marantz Japan, Inc.
3622 Kamitsuruma
Sagamihara-shi
Kanagawa, Japan

EUROPE

Marantz Europe S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium

Marantz France
4 rue Bernard Palissy
92600 Asnieres
France

Marantz Audio U.K., Ltd.
193 London Road
Staines, Middlesex
United Kingdom

Marantz Germany GMBH
Max-Planck-Strasse 22
6072 Dreieich
West Germany

Marantz Belgium
45 rue Auguste Van Zande
1080 Brussels
Belgium

Marantz Svenska A.B.
Franzengatan 6
10425 Stockholm
Sweden

Marantz Norske A.S.
Refstadalleen 13
Oslo 5
Norway

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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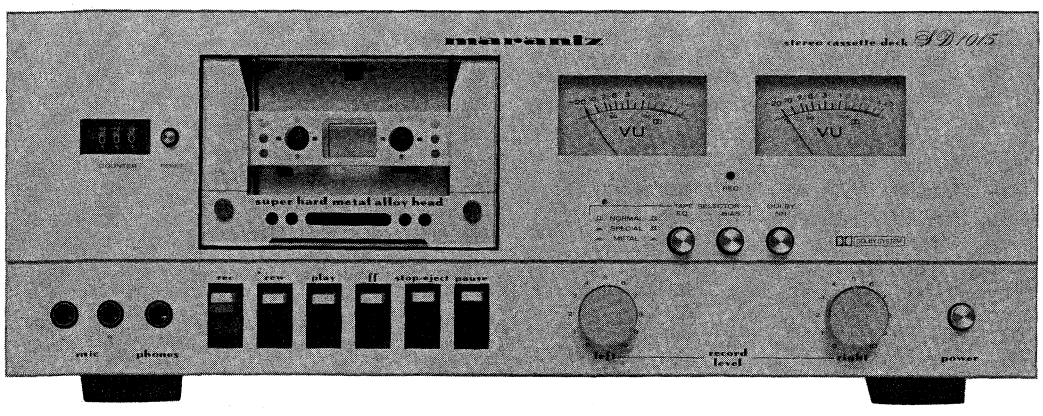
MARANTZ MODEL SD1015 CASSETTE DECK



INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for this unit.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Superscope Inc. A simple description is included for parts which can be usually obtained through local suppliers.

1. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking this unit, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (af OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/CrO_2)
  TDK AC-711 (Metal)

NOTE: If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)
  MTT-111 Wow and Flutter Tape Speed
  MTT-112 Measurement of Output Level Signal-to-Noise Ratio
  MTT-150 Adjustment of Output Level
  MTT-216 Frequency Response (for Normal)
  MTT-316 Frequency Response (for CrO2, Metal)
  MTT-121 Cross Talk
  MTT-141 Channel Separation

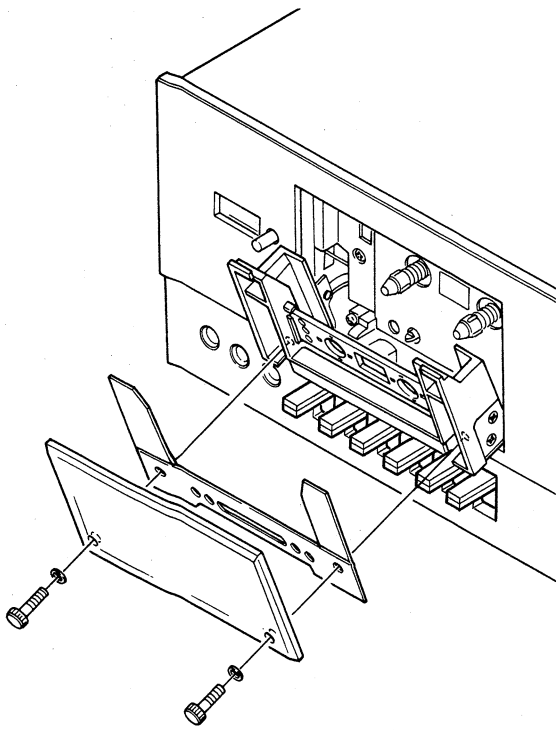
BIAS and EQ switches setting in accordance with tape used are as follows:

Tape	Switch Position	
	EQ Switch	BIAS Switch
AC-211		
AC-511		
AC-711		

2. DISASSEMBLY

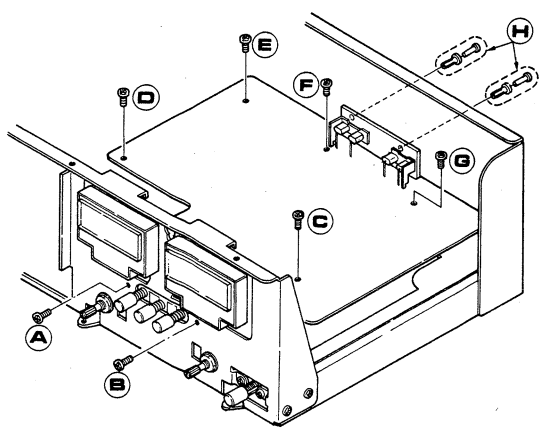
2.1 REMOVING THE CASSETTE CASE ESCUTCHEON

Remove the two screws holding the escutcheon and take this out for removal.



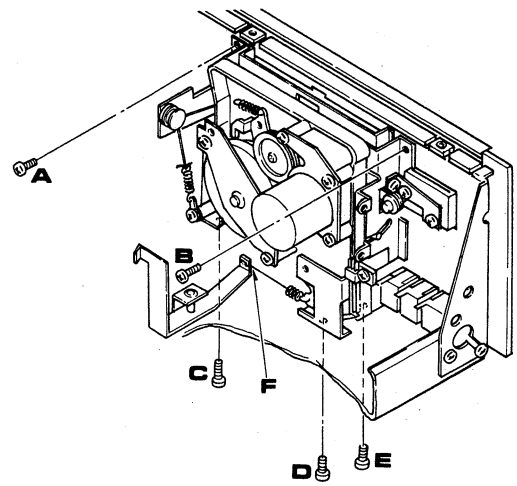
2.2 REMOVING THE MAIN P.W. BOARD

Remove the seven screws A, B, C, D, E, F, G and H holding the Main P.W. board. Then, draw it out with taking care of not applying excessive force to any lead wire.



2.3 REMOVING THE MECHANICAL CHASSIS

Remove the five screws A, B, C, D, and E holding the mechanical chassis. Remove the record lever spring assembly F. Then, draw the chassis out with taking care of the tape counter and operating levers.

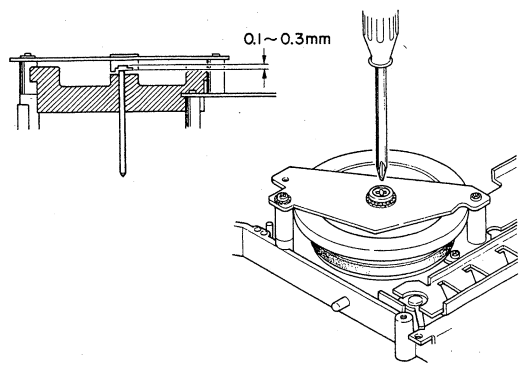


3. ADJUSTMENT PROCEDURES

3.1 MECHANICAL ADJUSTMENTS

3.1.1 Adjusting the Flywheel Thrust

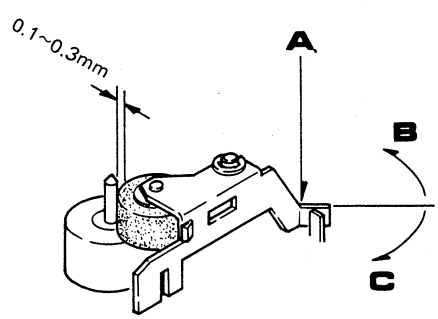
Adjust the thrust screw at the flywheel bracket until the clearance between the capstan tail end and thrust bearing is 0.1 to 0.3 mm as shown, using a phillips screw driver. For adjusting, feel of axial dropping of the flywheel for proper clearance as this cannot been seen through. Then paint the screw to lock.



3.1.2 Adjusting Pause Timing

Set the unit in the play mode of operation. Then, adjust the bend angle of the pinch roller bracket arm (point A in the line drawing) until the clearance between the pinch roller and capstan is 0.1 to 0.3 mm at the time when the take-up reel is stopped by slowly pressing the PAUSE push-button down.

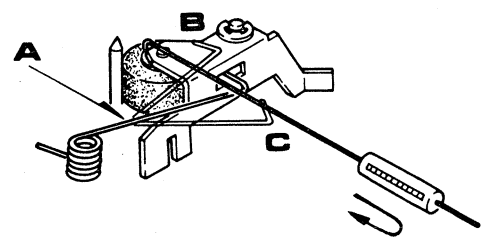
NOTE: **To widen the clearance, make the bend angle smaller (in the direction C). To make the clearance narrower, widen the bend angle (in the direction B).**



3.1.3 Adjusting the Pinch Roller Pressure

Measure the pressure of the pinch roller using a gauge as shown. For measurement, draw the pinch roller in the arrow direction in which it is detached from the capstan shaft and gradually return it toward the capstan. Read the gauge at the time when the pinch roller starts turning. The standard pressure is 300±50 g. If the pressure is out of the range, bend the pinch roller spring around the point A in the direction B or C.

NOTE: **To make the pressure strong, bend in the direction B. To make the pressure weak, bend in the direction C.**



3.1.4 Adjusting the Play Timing

It is normal that when the PLAY pushbutton is depressed, the take-up reel table turns first, then the pinch roller is rotated. The reel table and pinch roller must not start turning at the same time.

NOTE: **Make certain that such a subsequent operation is made irrespective of locking state is depressed slowly without loading the tape.**

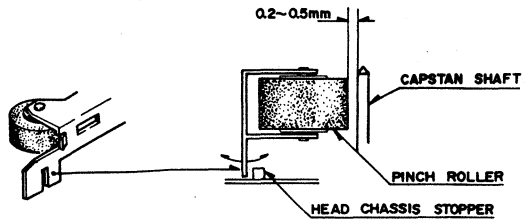
(1) Checking for adjustment

Check whether or not the clearance between the pinch roller and capstan is 0.2 to 0.5 mm when the take-up reel table starts turning with the PLAY pushbutton depressed slowly.

(2) Adjustment

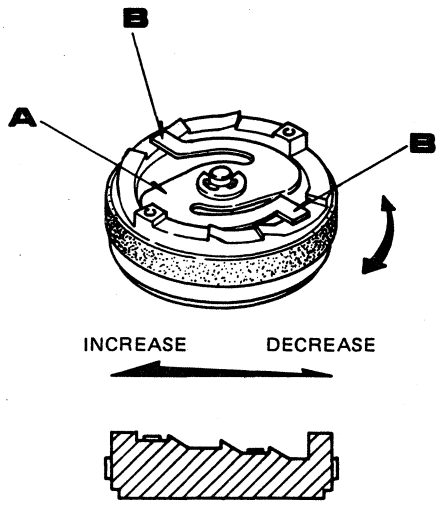
Bend the pinch roller bracket at the point that touches the head chassis stopper. In the line drawing, bending left reduces the clearance between the capstan and pinch roller.

NOTE: **Make certain that the pinch roller bracket does not leave touching the head chassis stopper in the play mode of operation as a result of excessive bending.**



3.1.6 Adjusting the Fast Forward and Rewind Torque

The fast forward and rewind idler has a torque adjust plate spring (part A in the line drawing), which has two pawls (part B) at its ends. Set the pawls in proper one of the three steps. To make the torque high, set the pawls in the shallowest step. For lower torque, set in the deepest step.

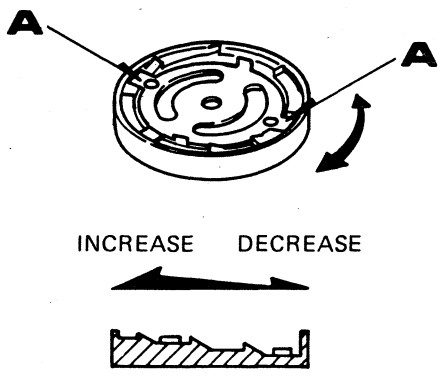


3.1.5 Adjusting the Play Torque

Put the two pawls of the circular plate spring on proper stepped position of the reel rest. The adjustable torque range is 40 to 70 g·cm.

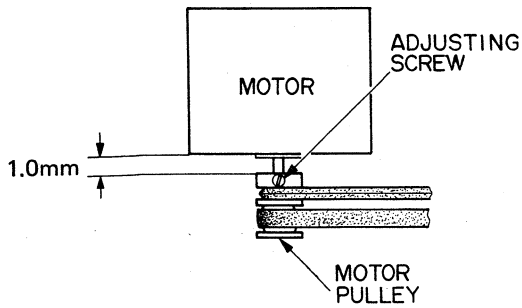
To make the torque high, put the pawls on a shallow step. For lower torque, put them on a deeper step.

- **Checking the take-up clutch for sliding**
  Make certain that the flywheel rotates freely when the reel table is locked. The flywheel that revolves irregularly or stops is not acceptable.



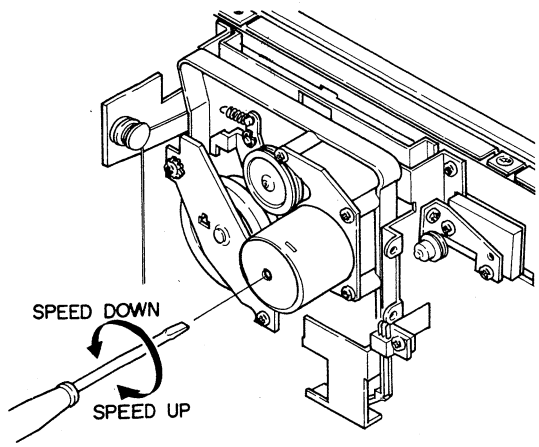
3.1.7 Positioning the Motor Pulley

Loosen the set screw and adjust the motor pulley position until the clearance between the pulley and motor is 1.0 mm as shown. Tighten the set



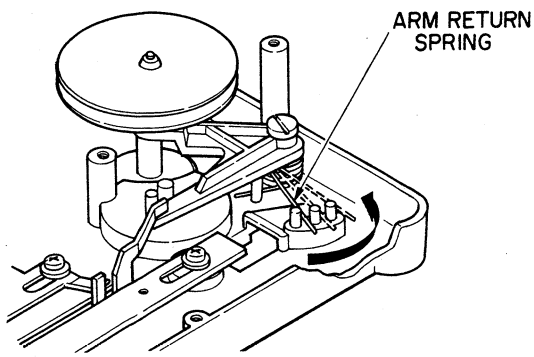
3.1.8 Adjusting the Tape Speed

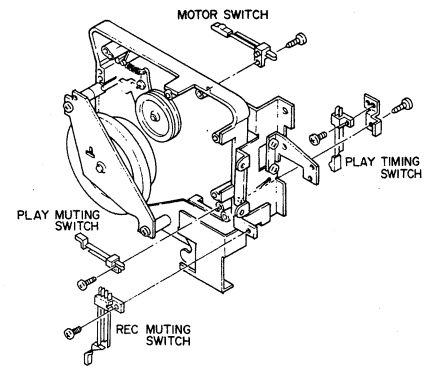
Adjust the semi-fixed resistor inside the motor until the tape speed is 2985±5Hz, using a screw driver or flat blade screw driver.



3.1.9 Adjusting the Rewind Idler Side Pressure

Make certain that in the rewind mode of operation, the rewind idler does not slip on the supply reel table when this is held by hand. If it slips, change the hanging position of the rewind idler arm return spring on the chassis in the arrow direction step by step until it does not slip.

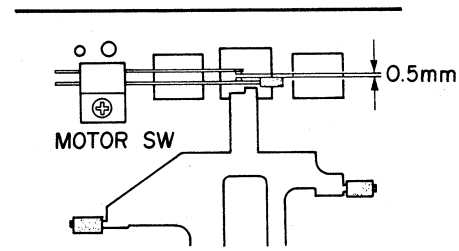




3.1.10 Positioning the Switches

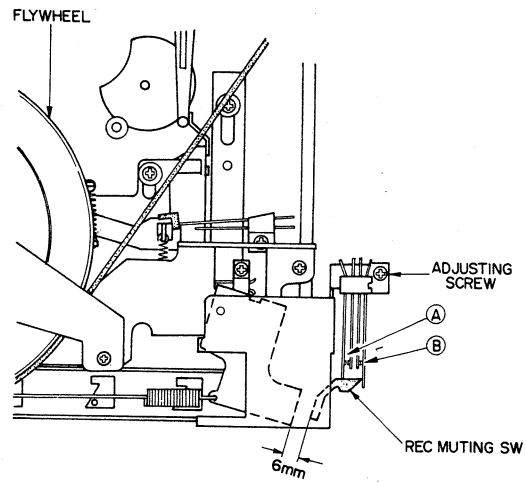
(1) Motor switch

Turn the motor switch in the arrow direction until it is screwed tightly. Make certain that the contact gap is wider than 0.5 mm.

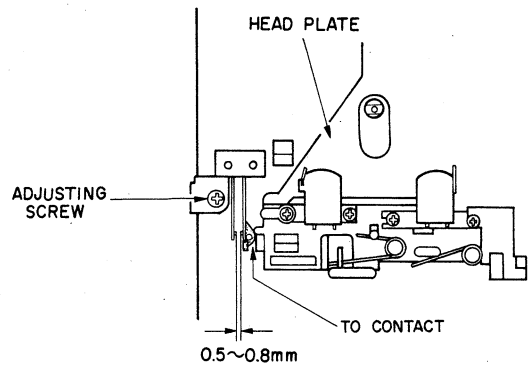


(2) Record muting switch

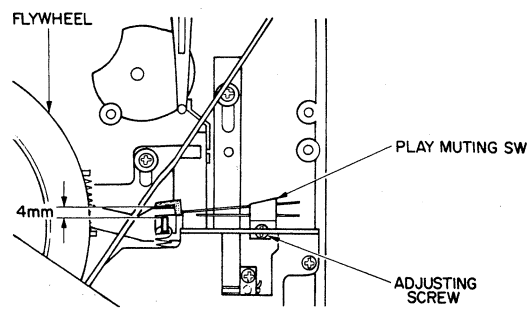
In the stop state, loosen the screw holding the record muting switch and position this so that the clearance between its end mold tip and mounting bracket may be 6 mm. Tighten the screw. Make certain that when the record lever is pressed in, the record muting switch contact A is made close and the contact B is broken out securely.



(3) Start muting switch
In the stop state, loosen the screw holding the start muting switch and position this so that its contact clearance may be 0.5 to 0.8 mm with leaving the contact tip in contact with the head plate. Tighten the screw.

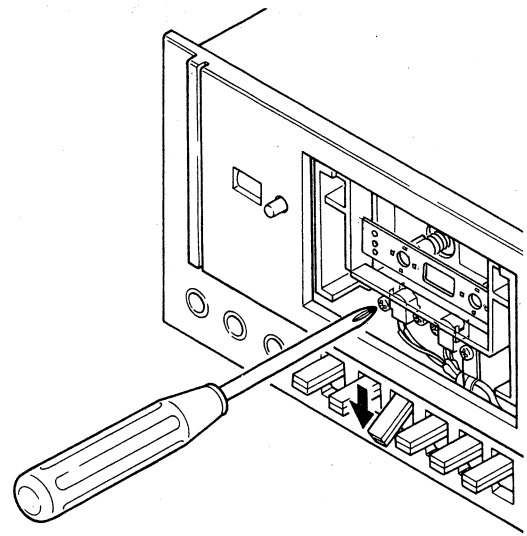


(4) Play muting switch
In the stop state, loosen the screw holding the play muting switch and position this so that the clearance between its end tip and play lever may be 4 mm.



3.1.11 Removing the Head

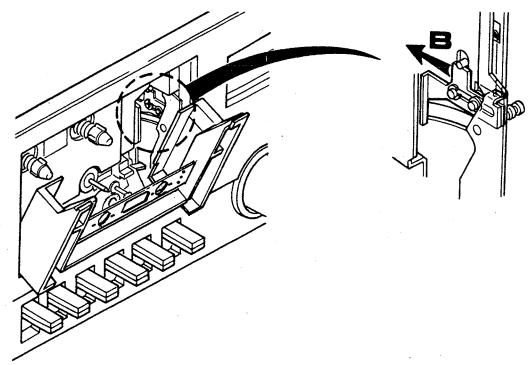
1. Depress the EJECT pushbutton.
2. Remove the escutcheon.



3. Depress the PLAY pushbutton to lock.
4. Remove the screws holding each head to make this free.
5. Depress the EJECT pushbutton to open the cassette lid.
6. Remove the head.

NOTES:

1. The PLAY pushbutton cannot be depressed when the cassette lid is open.
2. To lock the PLAY pushbutton with leaving the cassette lid, press the point (B) shown in the line drawing below. The PLAY pushbutton will be locked even when the cassette door is open.



3. In the state (2) above, the cassette lid cannot be locked. To lock it, depress the EJECT pushbutton two times to restore the original state.

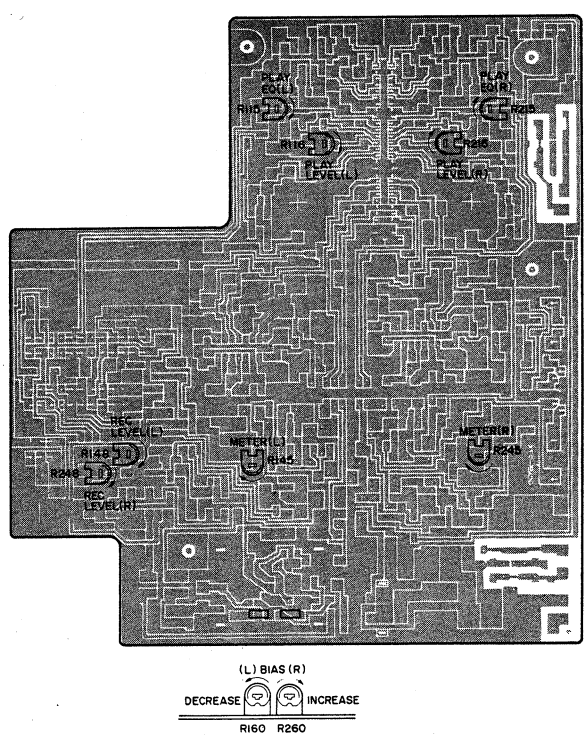
3.2 ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

Precautions before Adjustment and Measurement

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization:—Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetized adjusting tool. When using it, demagnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor more than needed.
7. If measuring the tape speed wow and flutter, operate the tape deck in the normal operating condition.
8. Do not apply locking bond excessively.

Definitions

1. The "normal playback state" is an operating state of the tape deck which plays back the MTT-150 test tape and is adjusted so as to produce a 580mV output at the MAIN P.W. Board (P100) J113, J213 with the load assuming the measuring instrument input impedance of greater than 100kΩ and with the TAPE selector switch set at the NORMAL position.
2. The "normal recording state" is an operating state of the tape deck which records a 1kHz signal to a specified recording level for which the recording level control is adjusted with the 1kHz signal applied at a specified input level to the MIC input terminal.
   In the normal recording state, therefore, this tape deck is set up with the level control to the state that the level meter pointer may deflect to the 100% mark as 0VU with a 1kHz, 1mV input signal applied.



1. Head Azimuth Adjustment

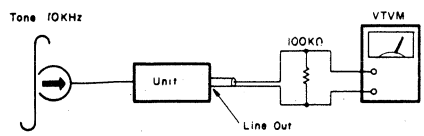
SET UP

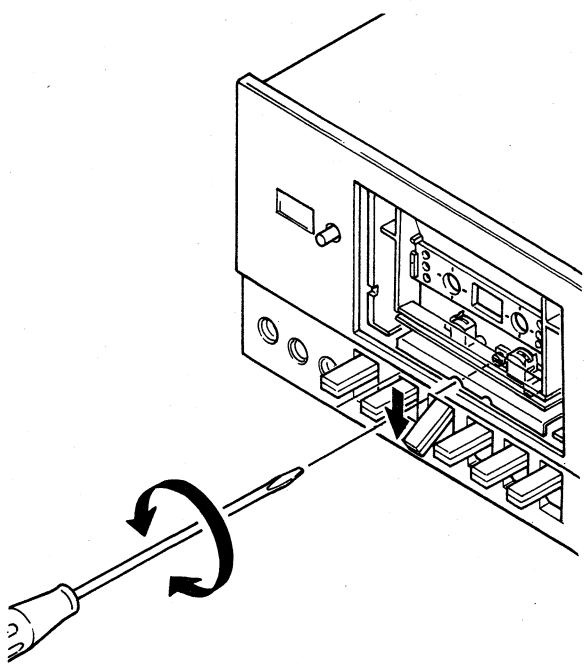
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- LINE OUT.
5. Test tape used:- MTT-216 (31.5Hz to 14kHz).

PROCEDURES

1. Play the 10kHz portion of the test tape MTT-216 back. Adjust the head azimuth adjusting screw for maximum VTVM read.
2. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
3. After adjustment, lock the screw with bond.

Mode: playback





CAUTION

After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.

2. Tape Speed Adjustment

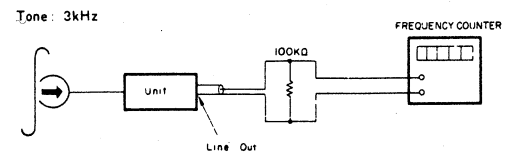
SET UP

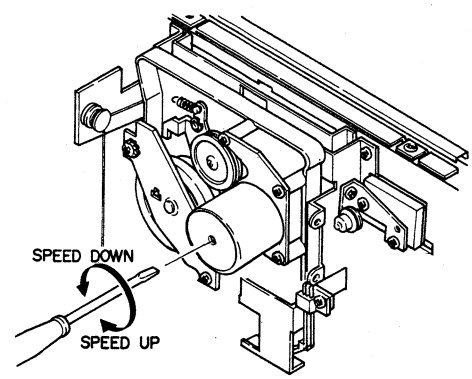
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Test tape used:- MTT-111.
4. Unit position:- Horizontal.

PROCEDURES

1. Play the mid portion of the test tape MTT—111 back. Adjust the tape speed adjusting semi-fixed resistor for 2990 to 3010Hz counter indication.

Mode: playback





CAUTIONS

1. For adjustment, the tape deck should be set up in the normal operating condition.
2. Do not adjust the semi-fixed resistor more turns than needed.
3. Do not proceed with adjustment after the tape deck temperature has changed.
4. If a strong shock or similar vibration is applied to the tape deck after adjustment, make certain that the measured tape speed had not changed.
5. If the tape speed deviation occurs, perform the adjustment again.
6. Be careful that the counter may indicate a wrong value because of too low counter input level.
7. Before adjustment, allow for 30 seconds or more after depressing of the PLAY push-button.

3. Playback Equalizer Adjustment

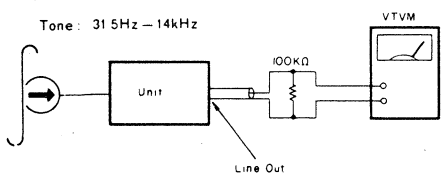
SET UP

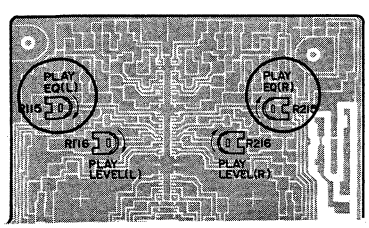
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. output terminal:- LINE OUT.
5. Test tape used:- MTT-216 (31.5Hz to 14kHz).

PROCEDURES

1. Play the test tape MTT-216. Let the 315Hz signal level be reference as 0dB.
2. Adjust R115 and R215 (2kΩ each) for 10kHz frequency response of 0 to −1dB in reference to the 315Hz signal level (0dB).
3. Proceed both for the right and left channels in the same manner.
4. Note that clockwise turning of R115 and R215 will increase the 10kHz signal output level.

Mode: playback





4. Playback Output Adjustment

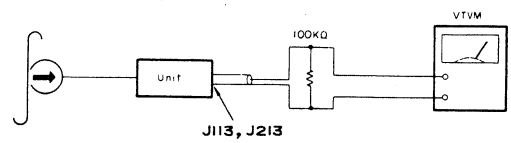
SET UP

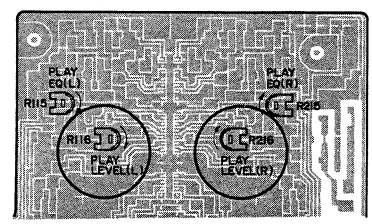
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- MAIN P.W. Board (P100) J113 and J213.
5. Test tape used:- MTT-150.

PROCEDURES

1. Play the test tape MTT-150 back. Adjust R116 and R216 (50kΩ each) for 580mV playback output level.
2. Proceed both for the right and left channels in the same manner.

Mode: playback





CAUTION

1. This adjustment should be performed after the one for the playback equalizer. If the playback equalizer is adjusted after the playback output adjustment, the playback output should be readjusted.

5. VU Meter Adjustment

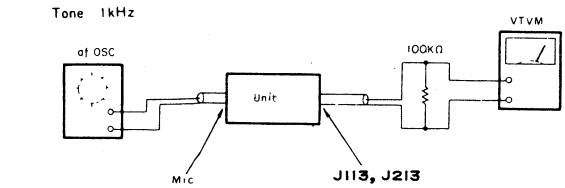
SET UP

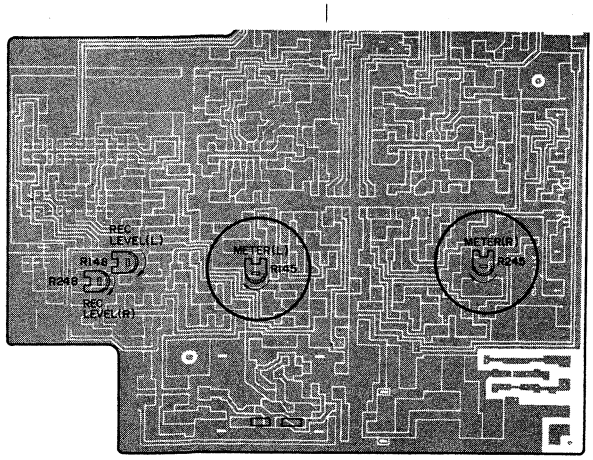
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- MAIN P.W. Board (P100) J113 and J213.
5. Input terminal:- MIC.

PROCEDURES

1. Connect a 1kHz, −60dBV input signal to the MIC terminal. Set up the tape deck for the recording mode of operation.
2. Adjust the REC control for 580mV output level at MONI. OUT of the MAIN P.W. Board (P100) J113 and J213.
3. Adjust R145 and R245 (2kΩ each) until the VU meter pointer deflects to the DOLBY mark (DD) on the VU meter.

Mode: record





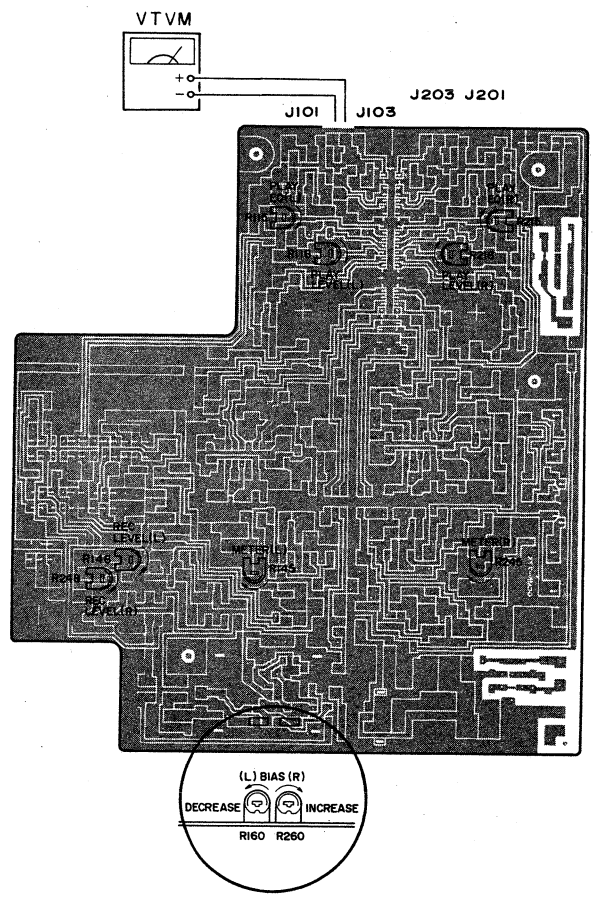
6. Recording Bias Current Adjustment (Temporal)

SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch:- NORMAL.

PROCEDURES

1. Set up the tape deck in the recording mode of operation. Connect the VTVM to J101, J103 (Lch) and J201, J203 (Rch). Adjust the semifixed resistor R160 and R260 for 4.2mV VTVM read.
2. Proceed both for the right and left channels in the same manner.
3. For the tape deck equipped with the TAPE selector switch, make certain that the VTVM reads approximately 5.2mV with it set to the CrO_2 position. The VTVM will read approximately 8.5~9mV with it set to the Metal position.



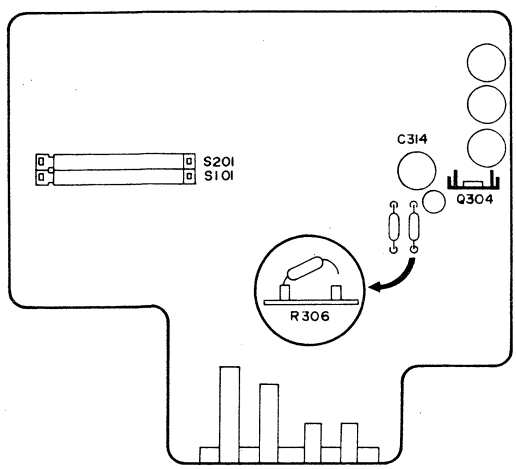
7. Recording Current Adjustment

SET UP

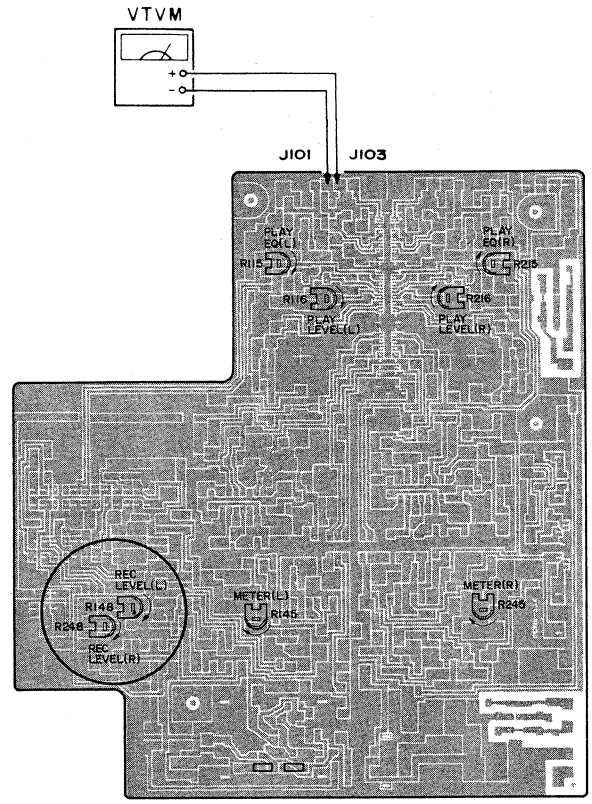
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, −60dB signal.
3. TAPE selector switch positions:- NORMAL.
4. Load:- Measuring instrument input impedance.

PROCEDURES

1. Stop the recording bias current oscillation by disconnecting the bias circuit +B resistor (R306).



2. Set up the tape deck to the normal recording state, Connect the VTVM to J101, J103 (L ch) and J201, J203 (R ch). Adjust the semifixed resistors R148 and R248 until the VTVM reads 0.5mV, respectively.
3. Proceed both for the right and left channels in the same manner.
4. After adjustment, release the recording bias current.



8. Reocrd-Playback Frequency Response Adjustment

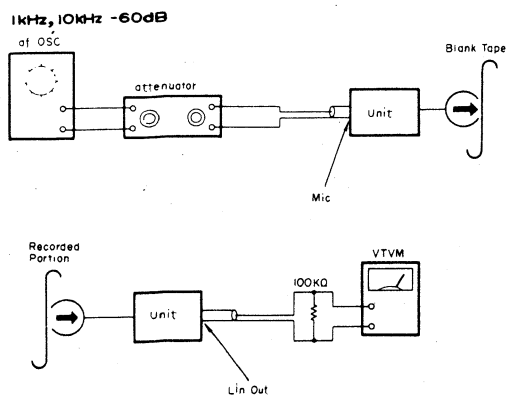
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, −60dB with −25dB referenced as Dolby Level.
3. TAPE selector switch:- NORMAL.
4. Output terminal:- LINE OUT.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- TDK AC-212

PROCEDURES

1. Connect the input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. In turn, reduce the input level by 25dB with the use of the attenuator. Record the 1 and 10kHz tones.
3. Play the 1kHz, 25dB-down recorded tone back as 0dB. Adjust the recording bias current until the 10kHz response is within ±1dB as referenced to the 1kHz, 0dB response.
4. Proceed both for the right and left channels in the same manner.
5. If the recording bias current is reduced in the above adjustment, be sure to measure the distortion.

Mode: record



9. Record-Playback Output Level Adjustment

SET UP

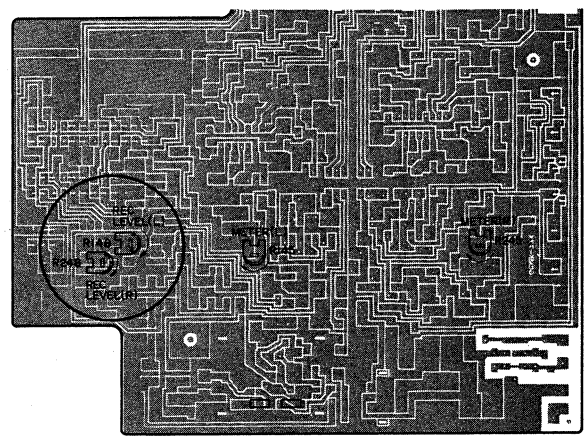
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal.
3. TAPE selector switch position:- NORMAL.
4. Output terminal:- MAIN P.W. Board (P100) J113 and J213.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- TDK AC-212.

PROCEDURES

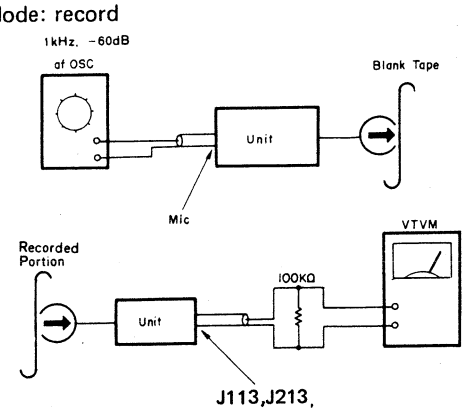
1. Connect the 1kHz, −60dB input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. Adjust the REC LEVEL semi-fixed resistors R148 and R248 until the recorded signal is reproduced at 460mV ±0.5dB.

CAUTION

1. If the bias current is changed, be sure to perform the above adjustment.



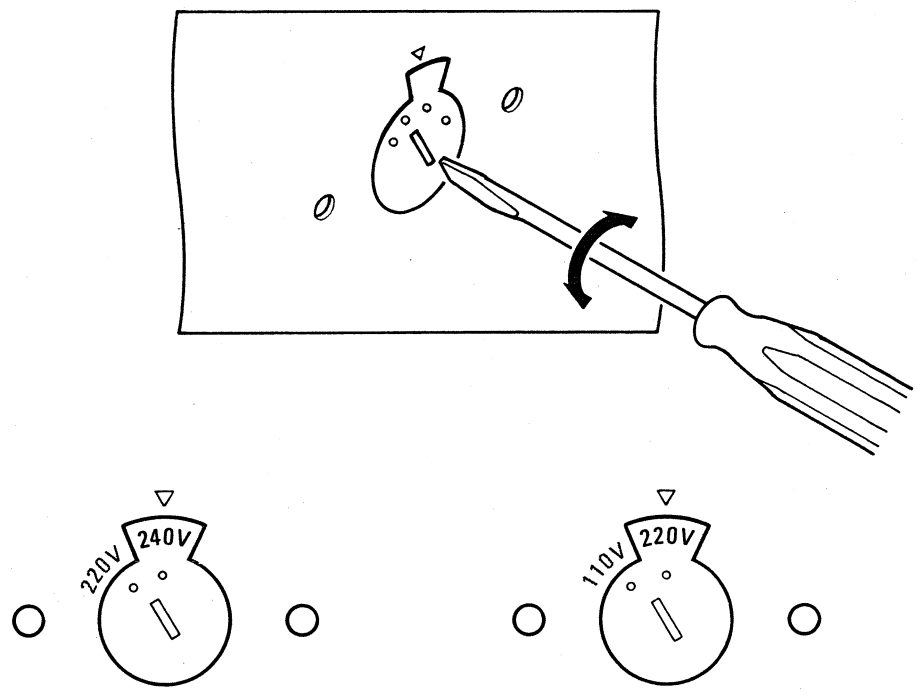
Mode: record



4. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTERY.

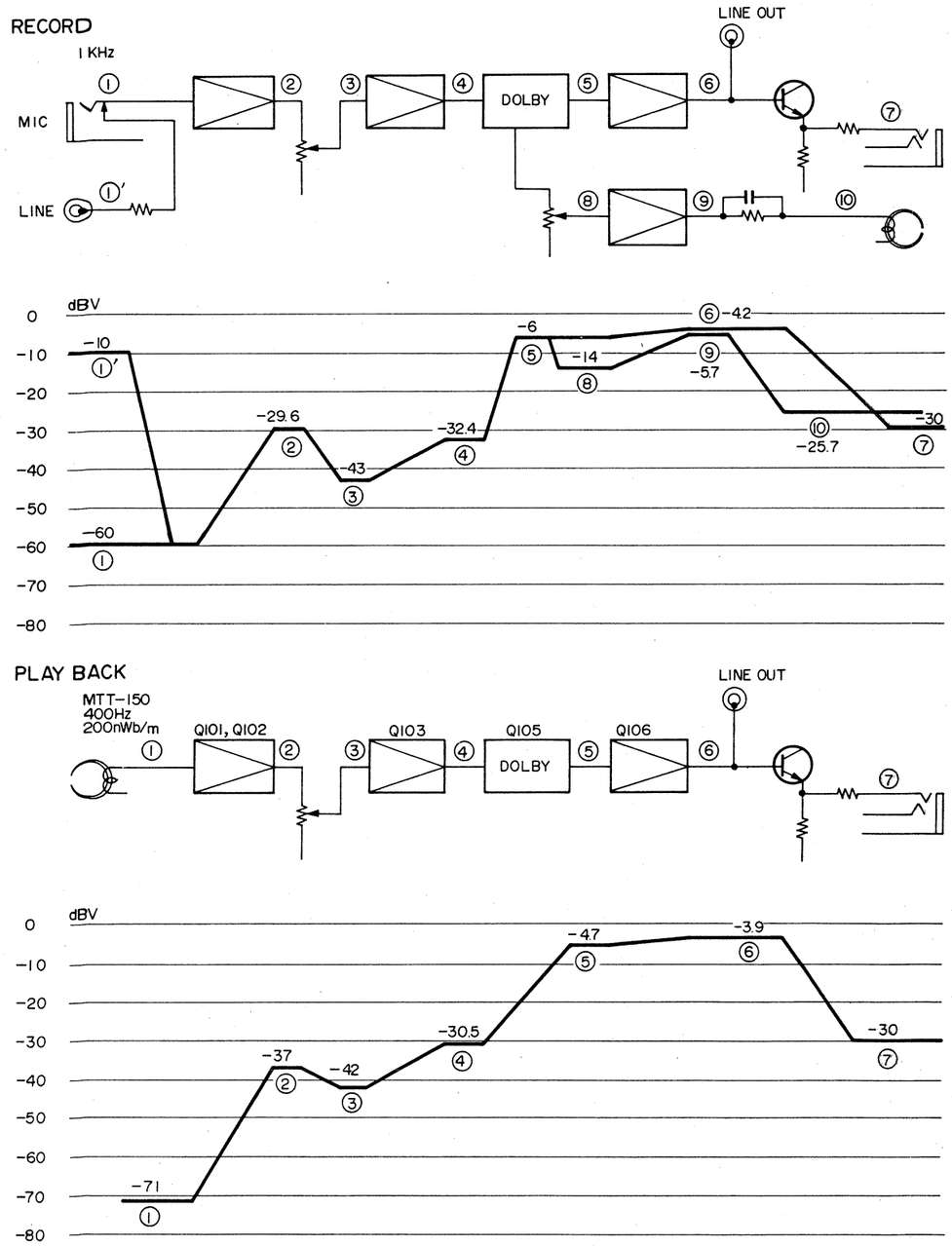


(A) Version (N) Version

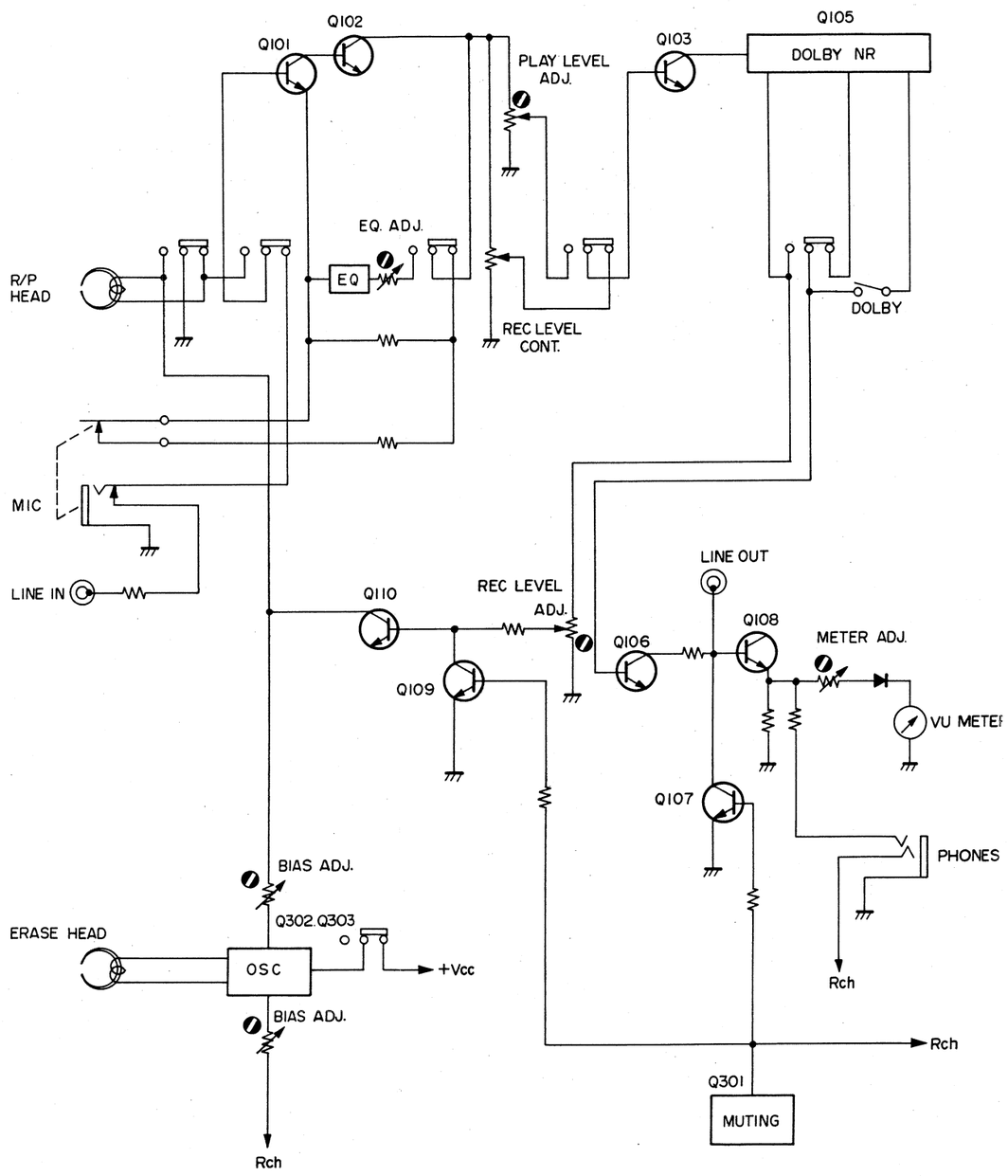
NOTE ON SAFETY: THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY. PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

5. DIAGRAMS

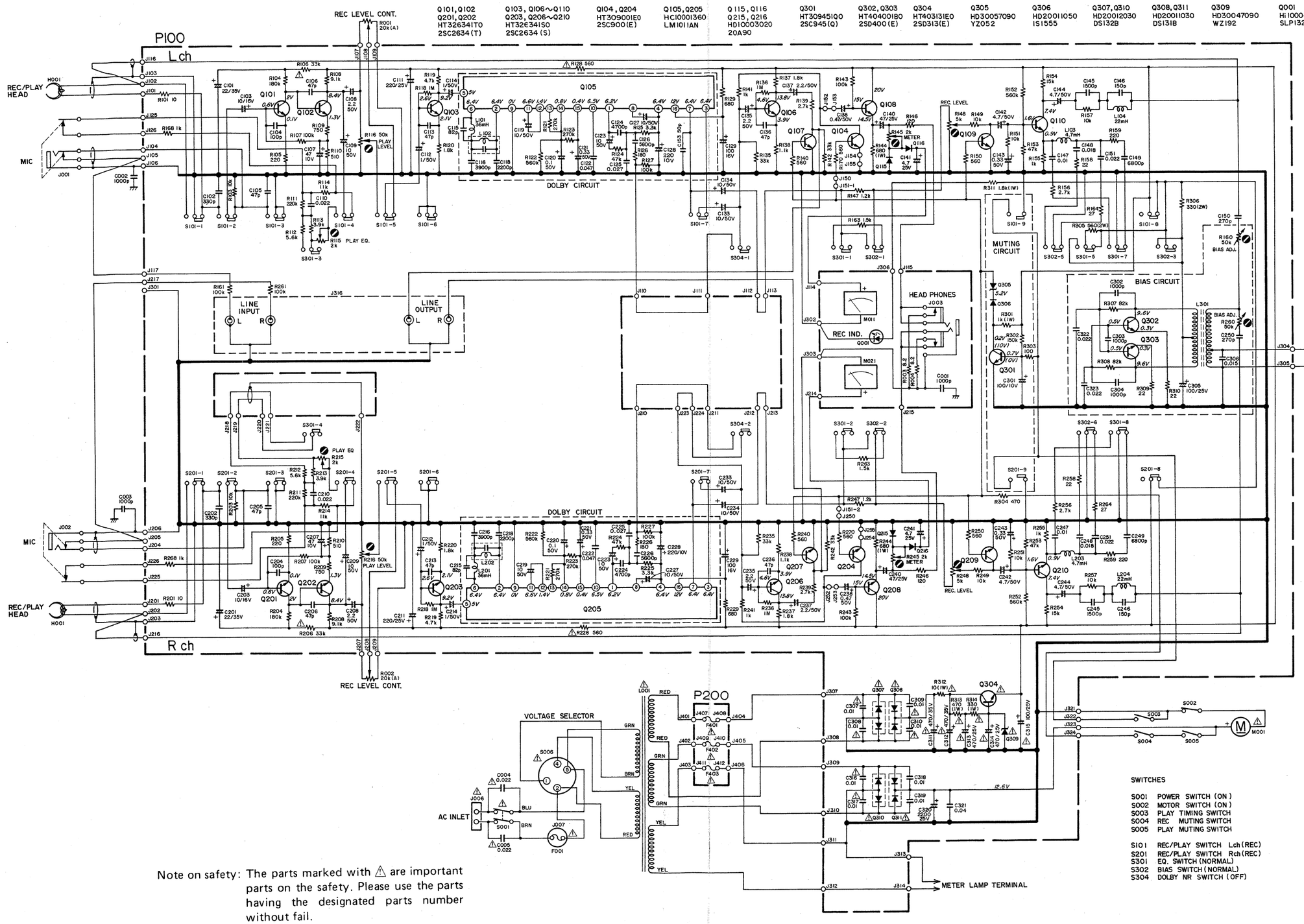
5.1 LEVEL DIAGRAM



5.2 BLOCK DIAGRAM

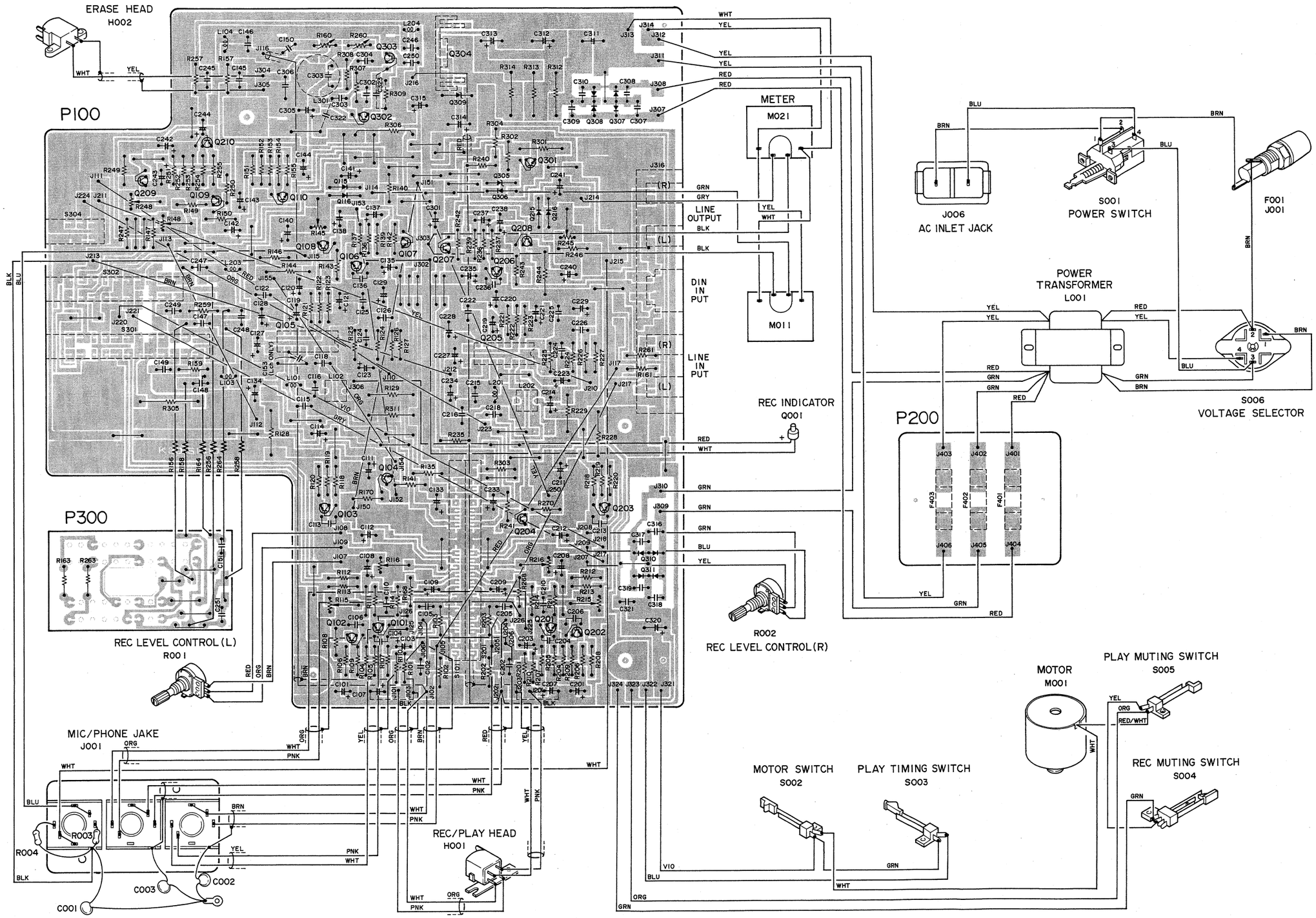


5.3 SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS



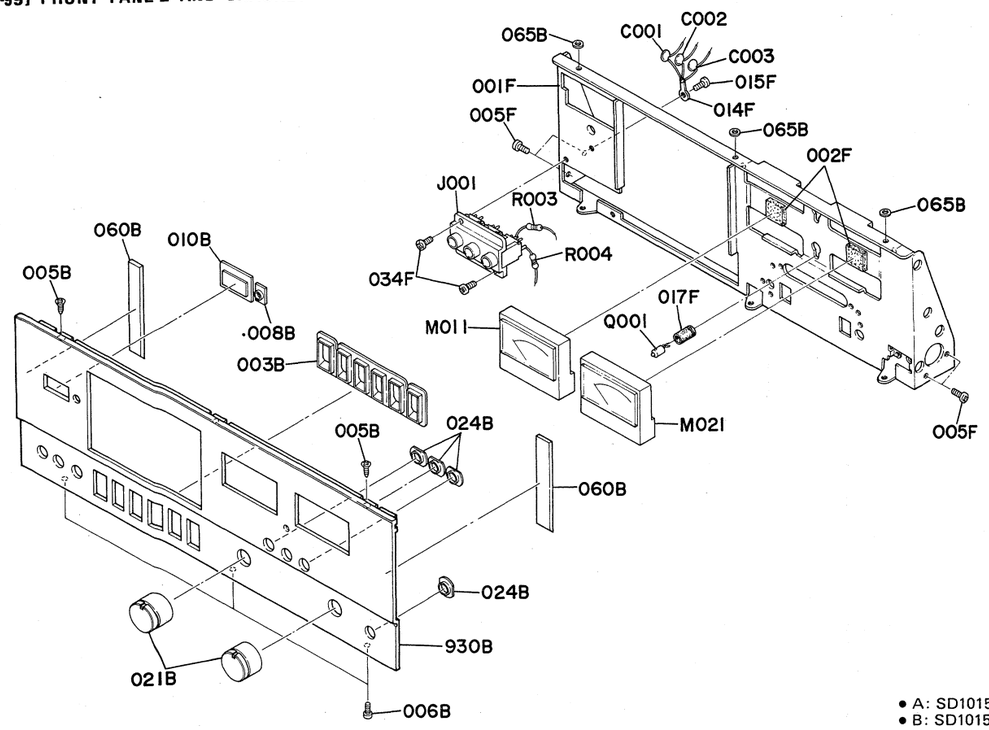
Note on safety: The parts marked with ⚠ are important parts on the safety. Please use the parts having the designated parts number without fail.

Components and wiring are subject to change for modification without notice.


ERASE HEAD
H002
P100
P300
P200
METER
M021
M011
LINE OUTPUT
DIN IN PUT
LINE IN PUT
REC INDICATOR
Q001
REC LEVEL CONTROL(L)
R001
REC LEVEL CONTROL(R)
R002
MIC/PHONE JAKE
J001
REC/PLAY HEAD
H001
J006
AC INLET JACK
S001
POWER SWITCH
F001
J001
POWER TRANSFORMER
L001
S006
VOLTAGE SELECTOR
MOTOR
M001
PLAY MUTING SWITCH
S005
REC MUTING SWITCH
S004
MOTOR SWITCH
S002
PLAY TIMING SWITCH
S003

6. EXPLODED VIEWS AND PARTS LIST

6.1 [P01-99] FRONT PANEL AND BRACKET

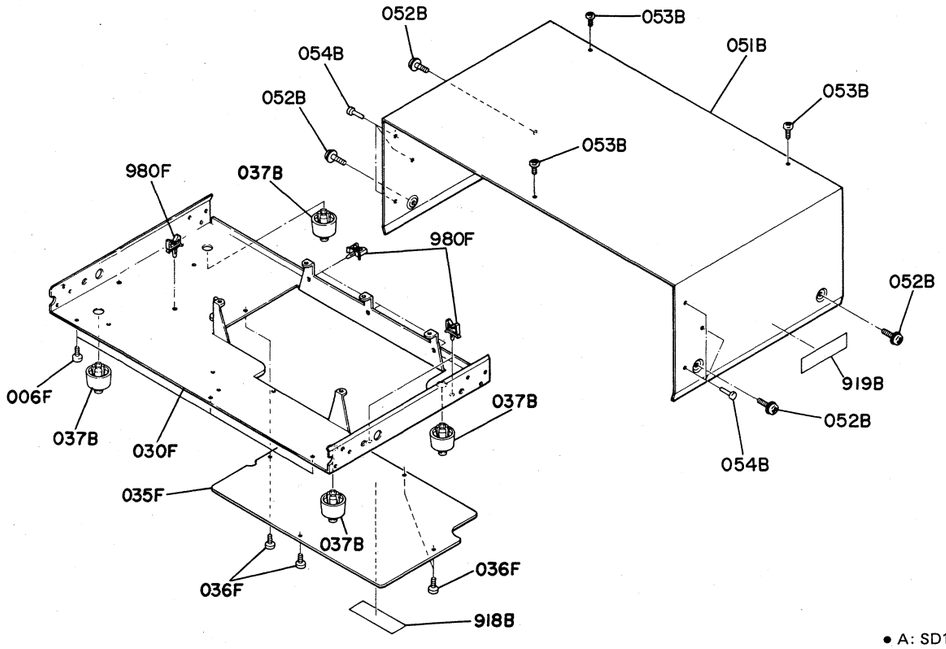


- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
					SD1015, ONLY
A	1			301S063400	Front Panel Assembly
003B	1			4214259010	Bushing
008B	1			3448259100	Bushing
010B	1			4276158040	Window
024B	4			2978259110	Bushing
060B	2			4279118050	Spacer
930B	1			301S063040	Escutcheon
					SD1015R, ONLY
A1		1	1	301S063410	Front Panel Assembly
003B		1	1	4214259010	Bushing
008B		1	1	3448259100	Bushing
010B		1	1	4276158040	Window
024B		4	4	2978259110	Bushing
060B		2	2	4279118050	Spacer
930B		1	1	301S063030	Escutcheon
005B	2	2	2	51500306B0	F.H. Tapped Screw F3 x 6
006B	3	3	3	51100306A9	B.H.M. Screw B3 x 6
021B	2	2	2	4276154060	Knob
001F	1	1	1	301S160020	Bracket
002F	2	2	2	3397056020	Buffer
005F	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
034F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
014F	1	1	1	62031650W0	Lug
015F	1	1	1	51100306A9	B.H.M. Screw B3 x 6
017F	1	1	1	4227271010	Holder

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
J001	1	1	1	YJ01001310	Jack, Mic/Phone
M011	1	1	1	IM11060090	D.C. Meter
M021	1	1	1	IM11060090	D.C. Meter
C001	1	1	1	DK18102300	Ceramic Cap 1000pF
C002	1	1	1	DK18102300	Ceramic Cap 1000pF
C003	1	1	1	DK18102300	Ceramic Cap 1000pF
Q001	1	1	1	HI10004030	L.E.D. SLP-132B Rec. IND.
R003	1	1	1	GD05082140	Resistor 8.2Ω ±5% ¼W
R004	1	1	1	GD05082140	Resistor 8.2Ω ±5% ¼W

6.2 [P02-99] TOP COVER AND MAIN CHASSIS

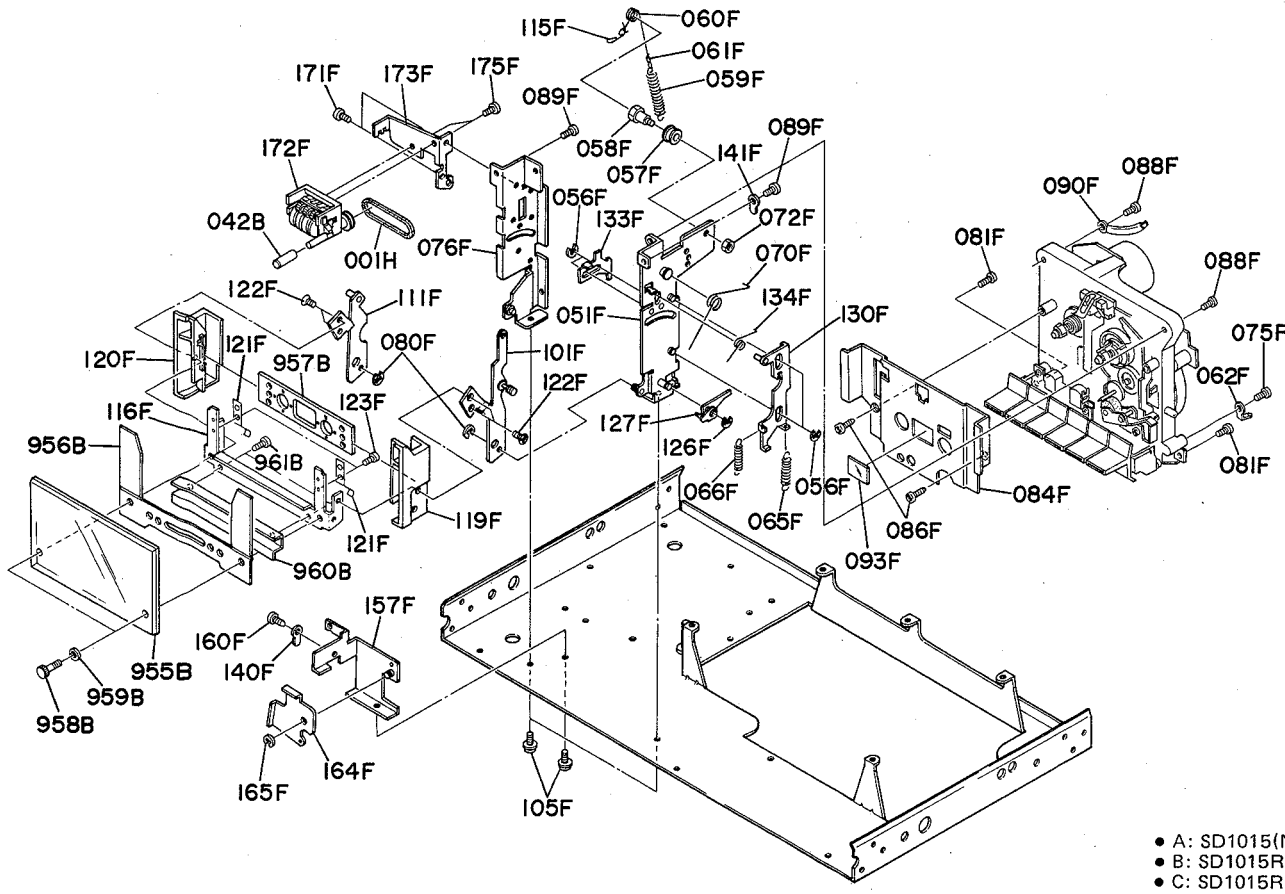


- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
037B	4	4	4	2259057012	Leg
918B	1	1	1	3889861010	Label
919B	1	1	1	2932861012	Label
051B	1	1	1	105T257010	Lid, Top Cover
052B	4	4	4	51480406S9	F. Washer Screw F4 x 6
053B	3	3	3	51280308Z9	B.H. Tapped Screw B3 x 8
054B	6	6	6	2991259010	Bushing

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
006F	3	3	3	51100306A9	B.H.M. Screw B3 x 6
030F	1	1	1	4214105505	Chassis (K)
035F	1	1	1	4214257020	Lid
036F	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
980F	6	6	6	4214005010	Clamper

6.3 [P03-99] ASSOCIATED MECHANISM FOR CASSETTE TAPE OPERATION



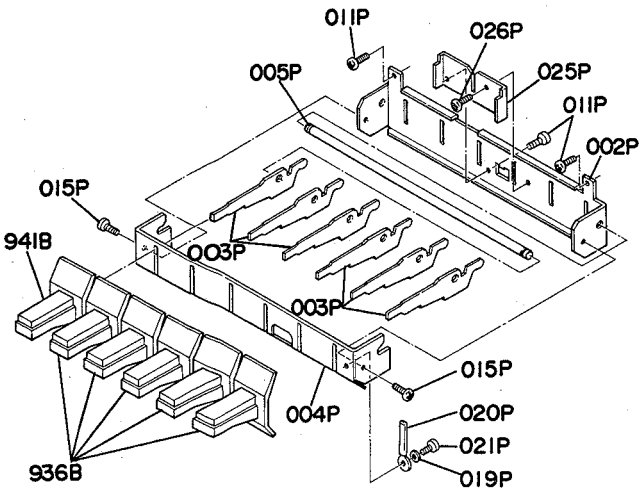
- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
042B	1	1	1	3448067200	Cap, Counter	
955B	1	1	1	4276158010	Window	
956B	1	1	1	4276063230	Escutcheon	
957B	1	1	1	4276063240	Escutcheon	
958B	2	2	2	4276112010	Shaft	
959B	2	2	2	59046502G9	Washer	
960B	1	1	1	4276053010	Cover	
961B	2	2	2	51382605T0	P.H. Tapped Screw	P2.6 x 5
051F	1	1	1	4265160500	Bracket, K (R)	
056F	4	4	4	64000200R0	RG Ring, E Type	
057F	1	1	1	4197262010	Pulley	
058F	1	1	1	4197112040	Shaft	
059F	1	1	1	4197115020	Spring	
060F	1	1	1	72081604A0	Spring (20)	
061F	1	1	1	56382540G0	Eyelet	
062F	1	1	1	62031650W0	Lug	
065F	1	1	1	4265115030	Spring	
066F	1	1	1	5265115040	Spring	
070F	1	1	1	4197115030	Spring	
072F	1	1	1	53110303A9	Hexagon Nut	
075F	1	1	1	51300306B0	P.H. Tapped Screw	P3 x 6
076F	1	1	1	4265160510	Bracket, K (L)	
080F	2	2	2	64000200R0	RG Ring, E Type	
081F	2	2	2	51060306A9	P.H.M. Screw	P3 x 6
084F	1	1	1	4265053130	Cover	
086F	2	2	2	51382606K0	P.H. Tapped Screw	P2.6 x 6
088F	2	2	2	51100308A9	B.H.M. Screw	B3 x 8
089F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
090F	1	1	1	4220005030	Clamper	
093F	1	1	1	4276274010	Reflector	
101F	1	1	1	4265002530	Arm, K (R)	
105F	3	3	3	51470306A9	L. Washer Screw	L3 x 6
111F	1	1	1	4265002540	Arm, K (L)	
115F	1	1	1	4197258030	Hook	
116F	1	1	1	4265160030	Bracket	
119F	1	1	1	4265271010	Holder (R)	
120F	1	1	1	4265271020	Holder (L)	
121F	2	2	2	4265115050	Spring	
122F	4	4	4	5104260550	F.H.M. Screw	F2.6 x 5
123F	2	2	2	51382605T0	P.H. Tapped Screw	P2.6 x 5
126F	1	1	1	64002500R0	RG Ring, E Type	
127F	1	1	1	4265002520	Arm, Inter Look	
130F	1	1	1	4265258500	Hook	
133F	1	1	1	4265354010	Lever	
134F	1	1	1	4265115010	Spring	
140F	1	1	1	62031650W0	Lug	
141F	1	1	1	62031650W0	Lug	
157F	1	1	1	4197104510	Retainer	
160F	1	1	1	51100306A9	B.H.M. Screw	B3 x 6
164F	1	1	1	4197354010	Lever	
165F	1	1	1	64000300R0	RG Ring, E Type	
171F	2	2	2	51100304A9	B.H.M. Screw	B3 x 4
172F	1	1	1	4292052010	Counter	
173F	1	1	1	4263160010	Bracket	
175F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
001H	1	1	1	4197264010	Belt	

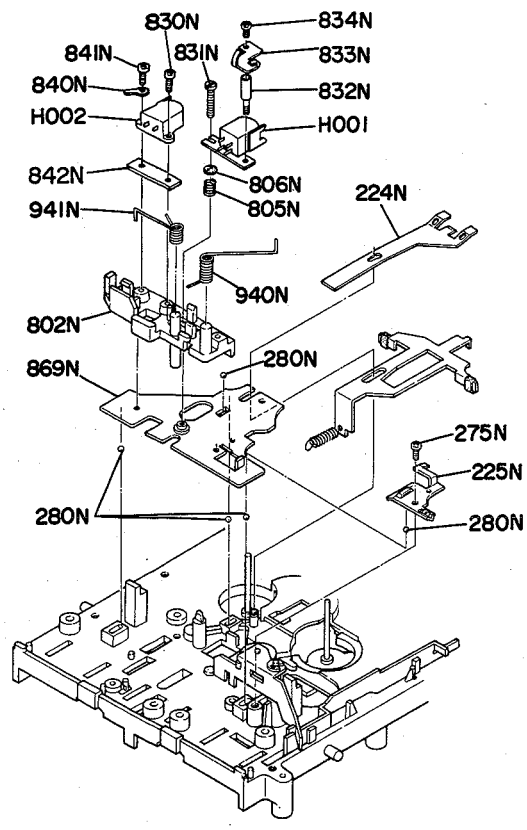
- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

6.4 [P04-99] BUTTONS FOR TAPE OPERATION



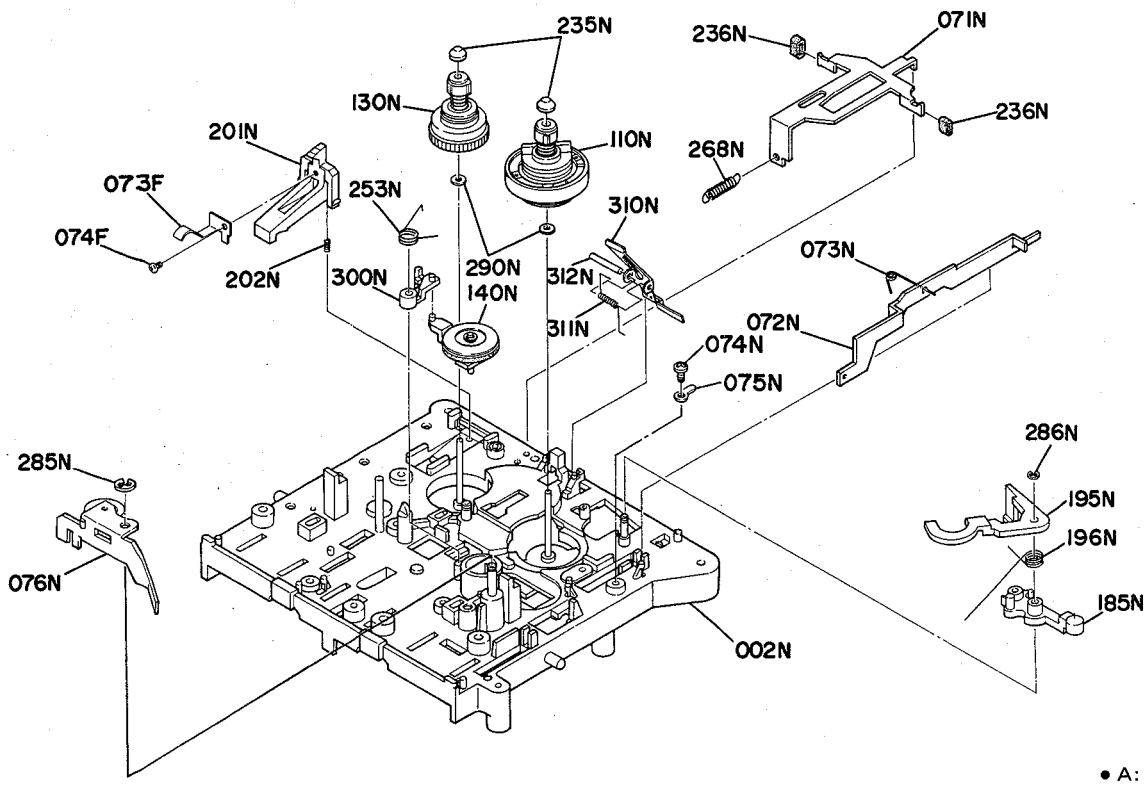
REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
936B	5	5	5	4214270010	Button	
941B	1	1	1	4214270020	Button	
003P	6	6	6	4380354070	Lever	
002P	1	1	1	4380160014	Bracket	
004P	1	1	1	4380051013	Guide	
005P	1	1	1	4380112030	Shaft	
011P	3	3	3	51300310B0	P.H. Tapped Screw	P3 x 10
015P	2	2	2	51062603A0	P.H.M. Screw	P2.6 x 3
019P	1	1	1	54052600R0	T.L. Washer OR	
020P	1	1	1	1210005010	Clamper	
021P	1	1	1	51062604A0	P.H.M. Screw	P2.6 x 4
025P	1	1	1	4383104042	Retainer	
026P	1	1	1	51062603A0	P.H.M. Screw	P2.6 x 3

6.5 [P05-99] HEAD CHASSIS



REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
224N	1	1	1	4380115130	Spring	
225N	1	1	1	4367115172	Spring	
275N	1	1	1	51300308B0	P.H. Tapped Screw	P3 x 8
280N	5	5	5	61020010T0	Ball	
802N	1	1	1	4367160015	Bracket	
805N	1	1	1	4383115030	Spring	
806N	1	1	1	3444118070	Spacer	
830N	1	1	1	51100212A0	B.H.M. Screw	B2 x 12
831N	1	1	1	51190210A2	Screw	2 x 10
832N	1	1	1	4380101033	Support	
833N	1	1	1	4380005010	Clamper	
834N	1	1	1	51100203A0	B.H.M. Screw	B2 x 3
840N	1	1	1	62021030W0	Lug	
841N	1	1	1	51100212A0	B.H.M. Screw	B2 x 12
869N	1	1	1	4380105720	Chassis	
940N	1	1	1	4367115380	Spring	
941N	1	1	1	4367115053	Spring	
842N	1	1	1	436711809A	Spacer	
H001	1	1	1	LH42951030	Rec/Play Head	
H002	1	1	1	LH31000510	Erase Head	

6.6 [P06-99] PARTS ASSEMBLED ON TOP OF CHASSIS



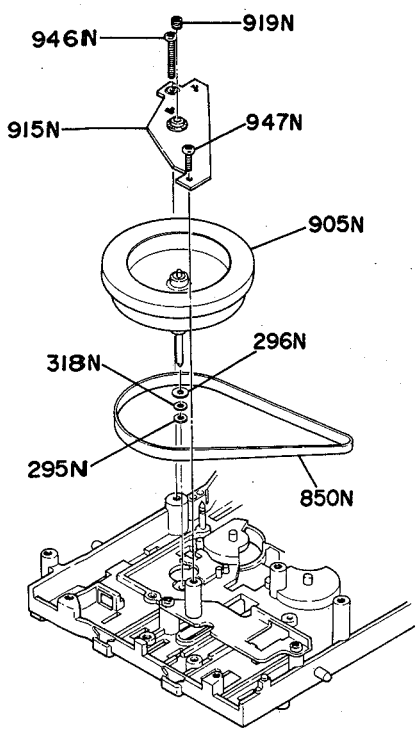
- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
002N	1	1	1	4380010570	Chassis
071N	1	1	1	4367354092	Lever
072N	1	1	1	4367354124	Lever
073N	1	1	1	4380115120	Spring
074N	1	1	1	5128260880	B.T. Tapped Screw B2.6 x 8
075N	1	1	1	62261240W0	Lug
076N	1	1	1	4367002702	Arm, Pinch Roller S
110N	1	1	1	4367004722	Table, Take Up
130N	1	1	1	4367004715	Table, Supply
140N	1	1	1	4367002730	Arm Assembly
185N	1	1	1	4380354770	Lever, TMS
195N	1	1	1	4367002055	Arm
196N	1	1	1	4367115130	Spring
201N	1	1	1	4367354084	Lever
202N	1	1	1	4380115060	Spring
235N	2	2	2	4367067010	Cap
236N	2	2	2	4367263010	Brake
253N	1	1	1	4367115310	Spring
268N	1	1	1	4367115210	Spring
285N	1	1	1	64002500R0	RG Ring, E Type
286N	1	1	1	64001500R0	RG Ring, E Type

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
290N	2	2	2	59020402G9	Washer
300N	1	1	1	4367354110	Lever
310N	1	1	1	4383115040	Spring
311N	1	1	1	4380115033	Spring
312N	1	1	1	4380112010	Shaft
073F	1	1	1	4197115062	Spring
074F	1	1	1	51302606U0	P.H. Tapped Screw P2.6 x 6

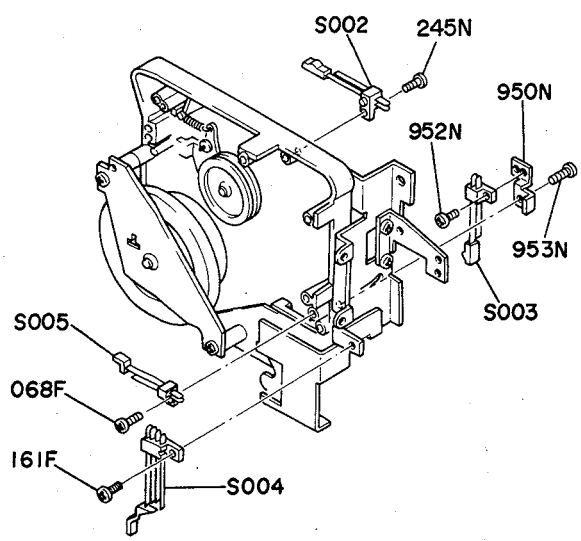
- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

6.7 [P07-99] FLYWHEEL



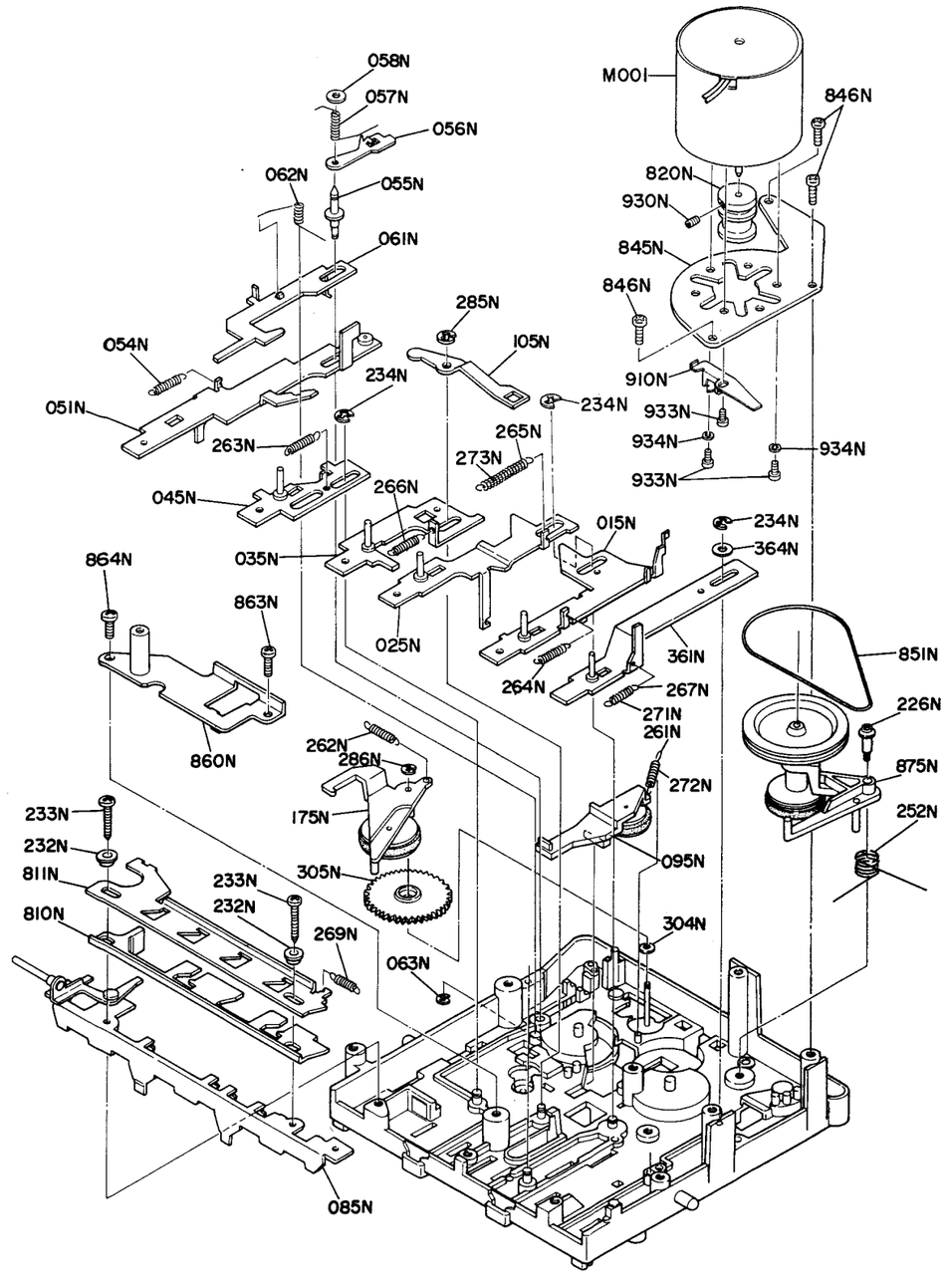
REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
915N	1	1	1	4380104704	Retainer, Flywheel	
295N	1	1	1	59264702G9	Washer	
296N	1	1	1	59260702G9	Washer	
318N	1	1	1	59264705G9	Washer	
850N	1	1	1	4380264032	Belt	
905N	1	1	1	4380273502	Flywheel	
919N	1	1	1	3483164020	Adjuster	
946N	1	1	1	51300325B0	P.H. Tapped Screw	P3 x 25
947N	1	1	1	51100308A9	B.H.M. Screw	B3 x 8

6.8 [P08-99] SWITCH LOCATION FOR TAPE OPERATION



REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
068F	1	1	1	51380206P0	P.H. Tapped Screw	P2 x 6
161F	1	1	1	51100205A0	B.H.M. Screw	B3 x 5
245N	1	1	1	51302608B0	B.H. Tapped Screw	B2.6 x 8
950N	1	1	1	4383160040	Bracket	
952N	2	2	2	51060205A0	P.H.M. Screw	P3 x 5
953N	1	1	1	51300308B0	P.H. Tapped Screw	P3 x 8
S002	1	1	1	SM01010680	Mini Switch, Motor	
S003	1	1	1	SM01010580	Mini Switch, Play Timing	
S004	1	1	1	SM02010080	Mini Switch, Rec. Muting	
S005	1	1	1	SM01010660	Mini Switch, Play Muting	

6.9 [P09-99] PARTS ASSEMBLED ON REVERSE OF CHASSIS

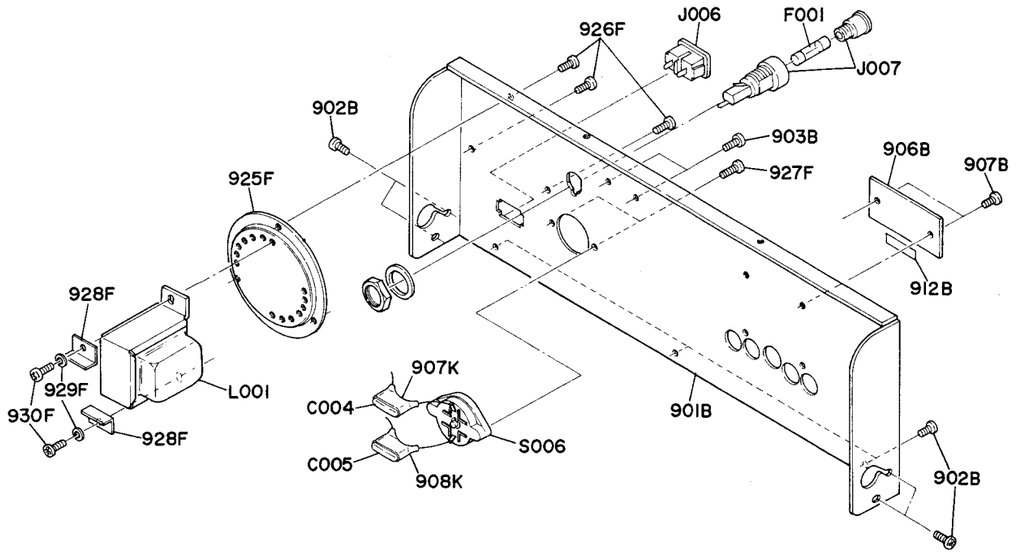


- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
015N	1	1	1	4380354704	Lever, Rew
025N	1	1	1	4380354782	Lever, Play
035N	1	1	1	4380354734	Lever, F.F.
045N	1	1	1	4380354743	Lever, Stop
051N	1	1	1	4380354754	Lever, Pause
085N	1	1	1	4383051705	Guide, Push Lever
361N	1	1	1	4380354715	Lever, Rec
860N	1	1	1	4380160702	Bracket, Switch
875N	1	1	1	4380001704	Idler
054N	1	1	1	4367115210	Spring
055N	1	1	1	4367112135	Shaft
056N	1	1	1	4367054032	Cam Pause Lock
057N	1	1	1	4367115142	Spring
058N	1	1	1	59020805G9	Washer
061N	1	1	1	4367354070	Lever, Eject
062N	1	1	1	4380115082	Spring
063N	1	1	1	64001500R0	RG Ring, E Type

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
095N	1	1	1	4367354760	Lever, FF
105N	1	1	1	4383002020	Arm, FF Idler Lever Look
175N	1	1	1	4367002727	Arm, Tms Idler
226N	1	1	1	4367112182	Shaft
232N	2	2	2	4380055010	Collar, Lock Cam
233N	2	2	2	5130031280	P.H. Tapped Screw P3 x 12
234N	4	4	4	64000300R0	RG Ring, E Type
252N	1	1	1	4380115052	Spring
261N	1	1	1	4367115090	Spring
262N	1	1	1	4367115120	Spring
263N	1	1	1	4367115252	Spring
264N	1	1	1	4367115340	Spring
265N	1	1	1	4367115270	Spring
266N	1	1	1	4367115282	Spring
267N	1	1	1	4380115070	Spring
269N	1	1	1	4380115100	Spring
271N	1	1	1	4367056020	Buffer
272N	1	1	1	4367056030	Buffer
273N	1	1	1	4367056020	Buffer
285N	1	1	1	64002500R0	RG Ring, E Type
286N	1	1	1	64001500R0	RG Ring, E Type
304N	1	1	1	4367118060	Spacer
305N	1	1	1	4367058012	Gear
364N	1	1	1	54020401E0	Flat Washer, P.
810N	1	1	1	4383054030	Cam, Stop/Eject
811N	1	1	1	4383054020	Cam, Lock
820N	1	1	1	4380262020	Pulley
845N	1	1	1	4380160033	Bracket, DC Motor
846N	3	3	3	51300308B0	P.H. Tapped Screw P3 x 8
851N	1	1	1	4380264052	Belt, TMS
863N	1	1	1	5130030880	P.H. Tapped Screw P3 x 8
864N	1	1	1	51300310B0	P.H. Tapped Screw P3 x 10
910N	1	1	1	4398002010	Arm
930N	1	1	1	51690305Q9	Socket Screw, HP.
933N	3	3	3	4367112150	Shaft
934N	2	2	2	54012600E0	Flat Washer
⚠M001	1	1	1	MM11200100	D.C. Motor V. Servo 12V 2400 rpm CCW

6.10 [P10-99] REAR PANEL

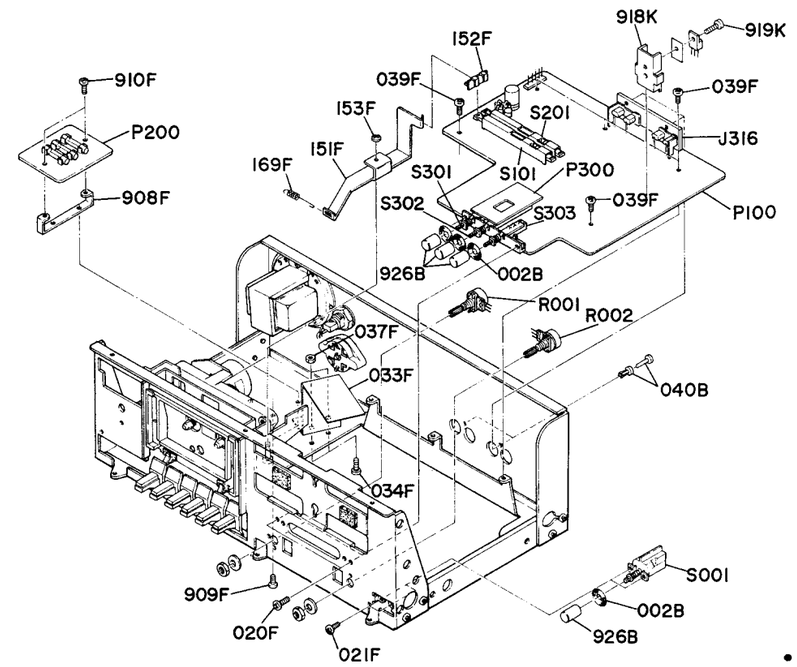


• A: SD1015(N)
• B: SD1015R(N)
• C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
901B	1	1		4292160020	Bracket Rear Panel	
901B			1	4292160030	Bracket Rear Panel	
902B	7	7	7	51280306U0	B.H. Tapped Screw	B3 x 6
903B	2	2	2	51380406U0	P.H. Tapped Screw	P4 x 6
906B	1			301S265030	Indicator	
906B		1		301S265040	Indicator	
906B			1	301S265050	Indicator	
907B	2	2	2	51760306B0	OS Screw	
912B	1	1	1	9510911030	Label	
925F	1	1	1	4265160060	Bracket	
926F	3	3	3	51100306S9	B.H.M. Screw	B3 x 6
927F	2	2	2	51280310U0	B.H. Tapped Screw	B3 x 10
928F	2	2	2	4265005010	Clamper	
929E	2	2	2	54040402A0	Spring Washer	
930F	2	2	2	51300408B0	P.H. Tapped Screw	P4 x 8

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
⚠C004	1	1	1	DF17223800	Film Cap, 0.02μF	1000V
⚠C005	1	1	1	DF17223800	Film Cap, 0.02μF	1000V
⚠F001	1	1	1	FS10012800	Fuse, 125mAT	
⚠J006	1	1	1	YP04000580	Plug, AC Inlet	
⚠J007	1	1	1	YJ08000290	Jack, Fuse Holder	
907K	1	1	1	3926120010	Insulator	
908K	1	1	1	3926120010	Insulator	
⚠L001	1	1		TS15406080	Power Transformer	
⚠L001			1	TS15406090	Power Transformer	
⚠S006	1	1		BY05060010	Voltage Selector	
⚠S006			1	BY05030010	Voltage Selector	

6.11 [M01-99] P.W. BOARD AND GENERAL PARTS

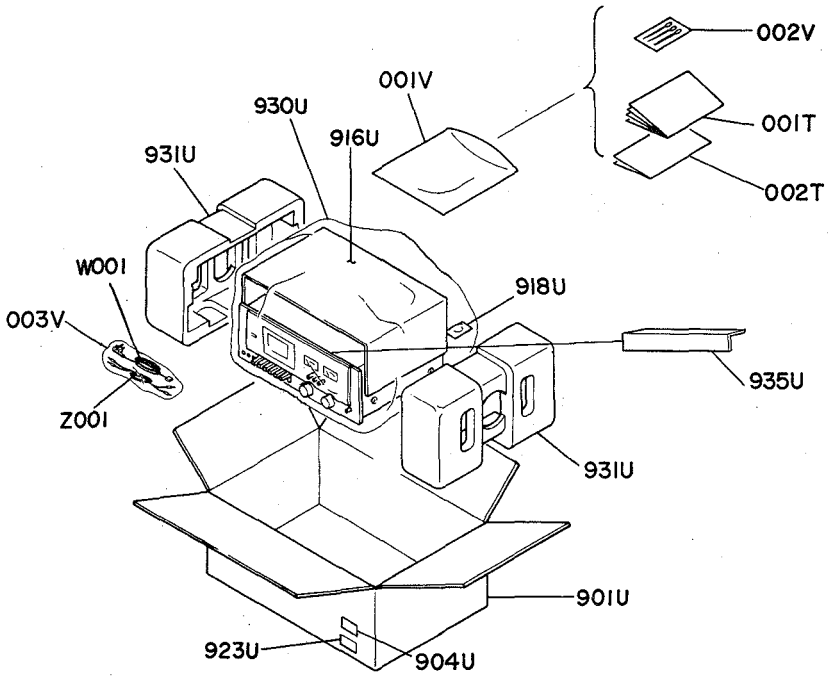


• A: SD1015(N)
• B: SD1015R(N)
• C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
002B	4	4	4	4257107020	Sheet	
040B	2	2	2	2965005010	Clamper	
926B	4	4	4	2276154320	Knob, Push SW	
020F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
021F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
033F	1	1	1	301S109010	Shield	
034F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
037F	2	2	2	53110303A9	Hexagon Nut	
039F	5	5	5	51100306A9	B.H.M. Screw	B3 x 6
151F	1	1	1	4214002010	Arm	
152F	1	1	1	4214354010	Lever	
153F	1	1	1	64000300R0	RG Ring, E Type	
169F	1	1	1	4214115010	Spring	
908F	1	1	1	3889160110	Bracket	
909F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
910F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION	
918K	1	1	1	4265267010	Heatsink	
919K	1	1	1	51280308B0	B.H.M. Screw	B3 x 8
J316	1	1	1	YT02040230	Jack	
P100	1	1	1	YK301S1310	P.W. Board, Main	
P200	1	1	1	YK301S1320	P.W. Board, Fuse	
P300	1	1	1	YK301S1330	P.W. Board, Swith	
R001	1	1	1	RK02030460	Variable Resist 20KΩ (A)	
R002	1	1	1	RK02030460	Variable Resist 20KΩ (A)	
⚠S001	1	1	1	SP02010440	Push Switch, Power	
S101	1	1	1	SS09020120	Slide Switch, Rec/Play	
S201	1	1	1	SS09020120	Slide Switch, Rec/Play	
S301	1	1	1	SP08030130	Push Switch, EQ	
S302	1	1	1	SP08030130	Push Switch, Bias	
S303	1	1	1	SP08030130	Push Switch, Dolby NR	

6.12 [H01-99] PACKING MATERIALS



- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
001T	1	1	1	3O1S851310	Instructions
002T	1	1	1	3O1S856010	Circuit Diagram
901U	1			3O1S801020	Packing Case
901U		1	1	3O1S801030	Packing Case
931U	2	2	2	4214809010	Cushion
930U	1	1	1	9014335330	Polyethy Bag
916U	1	1	1	2918107190	Sheet
918U	1	1	1	2731821010	Silicagel
923U	2	2	2	9526019030	Serial No. Card.

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
904U	1	1	1	9510911030	Label
935U	1	1	1	4265807010	Cushion
001V	1	1	1	9011730010	Polyethy Bag
002V	1	1	1	4136071010	Cleaner
003V	1	1	1	9011325010	Polyethy Bag
Z001	2	2	2	ZD01000170	Connective Cord
W001	1	1		ZC01805010	A.C. Power Cord
W001			1	ZC02006020	A.C. Power Cord

- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

6.13 ELECTRICAL PARTS

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION			
					P100-PRE-AMP CIRCUIT BOARD			
P100	1	1	1	YK301S1310	P.W. Board, Pre-Amp			
	1	1	1	ZZ301S8310	P.W. Board Assembly			
					P100-CAPACITORS			
C101	1	1	1	EA22603590	Elect	22μF		35V
C102	1	1	1	DK16331300	Ceramic	330pF	±10%	
C103	1	1	1	EE10601640	Elect	10μF		16V
C104	1	1	1	DD15101370	Ceramic	100pF	±5%	
C105	1	1	1	DD15470370	Ceramic	47pF	±10%	
C106	1	1	1	DD15470370	Ceramic	47pF	±10%	
C107	1	1	1	EA47601090	Elect	47μF		10V
C108	1	1	1	EE22505040	Elect	2.2μF		50V
C109	1	1	1	EA10605030	Elect	10μF		50V
C110	1	1	1	DF15223300	Film	0.022μF	±5%	
C111	1	1	1	EA22702590	Elect	220μF		25V
C112	1	1	1	EE10505050	Elect	1μF		50V
C113	1	1	1	DD15470370	Ceramic	47pF	±5%	
C114	1	1	1	EE10505030	Elect	1μF		50V
C115	1	1	1	DD15820370	Ceramic	82pF	±5%	
C116	1	1	1	DF15392300	Film	3900pF	±5%	
C118	1	1	1	DF15222300	Film	2200pF	±5%	
C119	1	1	1	EA10605030	Elect	10μF		50V
C120	1	1	1	EE10405030	Elect	0.1pF		50V
C121	1	1	1	EA33405030	Elect	0.33μF		50V
C122	1	1	1	DF15473300	Film	0.047μF	±5%	
C123	1	1	1	EA10605030	Elect	10μF		50V
C124	1	1	1	DF15472300	Film	4700pF	±5%	
C125	1	1	1	DF15273300	Film	0.027μF	±5%	
C126	1	1	1	DF15562300	Film	5600pF	±5%	
C127	1	1	1	EA10605030	Elect	10μF		50V
C128	1	1	1	EA22701090	Elect	220μF		10V
C129	1	1	1	EA10701690	Elect	100μF		16V
C133	1	1	1	EA10605030	Elect	10μF		50V
C134	1	1	1	EA10605030	Elect	10μF		50V
C135	1	1	1	EA22505030	Elect	2.2μF		50V
C136	1	1	1	DD15470370	Ceramic	47pF	±5%	
C137	1	1	1	EA22505030	Elect	2.2μF		50V
C138	1	1	1	EA47405030	Elect	0.47μF		50V
C140	1	1	1	EA47602590	Elect	47μF		25V
C141	1	1	1	EA47505030	Elect	4.7μF		50V
C142	1	1	1	EA47505030	Elect	4.7μF		50V
C143	1	1	1	EA33405030	Elect	0.33μF		50V
C144	1	1	1	EA47505030	Elect	4.7μF		50V
C145	1	1	1	DF15152300	Film	1500pF	±5%	
C146	1	1	1	DF55151090	Film	150pF	±5%	
C147	1	1	1	DF15103300	Film	0.01μF	±5%	
C148	1	1	1	DF15153300	Film	0.015μF	±5%	
C149	1	1	1	DF15682300	Film	0.0068μF	±5%	
C150	1	1	1	DF65271510	Film	270pF	±5%	
C201	1	1	1	EA22603590	Elect	22μF		35V
C202	1	1	1	DK16331300	Ceramic	330pF	±10%	
C203	1	1	1	EE10601640	Elect	10μF		16V
C204	1	1	1	DD15101370	Ceramic	100pF	±5%	
C153	1	1	1	DD15510370	Ceramic	51pF	±5%	

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION			
C205	1	1	1	DD15470370	Ceramic	47pF	±5%	
C206	1	1	1	DD15470370	Ceramic	47pF	±5%	
C207	1	1	1	EA47601090	Elect	47μF		10V
C208	1	1	1	EE22505040	Elect	2.2μF		50V
C209	1	1	1	EA10605030	Elect	10μF		16V
C210	1	1	1	DF15223300	Film	0.022pF	±5%	
C211	1	1	1	EA22702590	Elect	220μF		25V
C212	1	1	1	EE10505050	Elect	1μF		50V
C213	1	1	1	DD15470370	Ceramic	47pF	±5%	
C214	1	1	1	EE10505040	Elect	1μF		50V
C215	1	1	1	DD15820370	Ceramic	82pF	±5%	
C216	1	1	1	DF15392300	Film	3900pF	±5%	
C218	1	1	1	DF15222300	Film	2200pF	±5%	
C219	1	1	1	EA10605030	Elect	10μF		50V
C220	1	1	1	EE10405030	Elect	0.1μF		50V
C221	1	1	1	EE33405030	Elect	0.33μF		50V
C222	1	1	1	DF15473300	Film	0.047μF	±5%	
C223	1	1	1	EA10605030	Elect	10μF		50V
C224	1	1	1	DF15472300	Film	4700pF	±5%	
C225	1	1	1	DF15273300	Film	0.027μF	±5%	
C226	1	1	1	DF15562300	Film	5600pF	±5%	
C227	1	1	1	EA10605030	Elect	10μF		50V
C228	1	1	1	EA22701090	Elect	220μF		10V
C229	1	1	1	EA10701690	Elect	100μF		16V
C233	1	1	1	EA10605030	Elect	10μF		50V
C234	1	1	1	EA10605030	Elect	10μF		50V
C235	1	1	1	EA22505030	Elect	2.2μF		50V
C236	1	1	1	DD15470370	Ceramic	47pF	±5%	
C237	1	1	1	EA22505030	Elect	2.2μF		50V
C238	1	1	1	EA47405090	Elect	0.47μF		50V
C240	1	1	1	EA47602590	Elect	47μF		25V
C241	1	1	1	EA47505030	Elect	4.7μF		50V
C242	1	1	1	EA47505030	Elect	4.7μF		50V
C243	1	1	1	EA33405080	Elect	0.33μF		50V
C244	1	1	1	EA47505030	Elect	4.7μF		50V
C245	1	1	1	DF15152300	Film	1500pF	±5%	
C246	1	1	1	DF55151090	Film	150pF	±5%	
C247	1	1	1	DF15103300	Film	0.01μF	±5%	
C248	1	1	1	DF15153300	Film	0.015μF	±5%	
C249	1	1	1	DF15682300	Film	0.0068μF	±5%	
C250	1	1	1	DF65271510	Film	270μF	±5%	
C301	1	1	1	EA10701030	Elect	100μF		10V
C302	1	1	1	DF16682510	Film	6800pF	±5%	
C303	1	1	1	DF16153500	Film	0.015μF	±10%	
C304	1	1	1	DF16682510	Film	6800pF	±5%	
C305	1	1	1	EA10702530	Elect	100μF		50V
C306	1	1	1	DF16103520	Film	0.01μF	±10%	
⚠C307	1	1	1	DF17103300	Film	0.01μF	±20%	
⚠C308	1	1	1	DF17103300	Film	0.01μF	±20%	
⚠C309	1	1	1	DF17103300	Film	0.01μF	±20%	
⚠C310	1	1	1	DF17103300	Film	0.01μF	±20%	
⚠C311	1	1	1	EA47703590	Elect	470μF		35V
⚠C312	1	1	1	EA47703590	Elect	470μF		35V
⚠C313	1	1	1	EA47702590	Elect	470μF		25V

- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
⚠C314	1	1	1	EA47702590	Elect 470μF 25V
⚠C315	1	1	1	EA10702590	Elect 100μF 25V
⚠C316	1	1	1	DK17103300	Ceramic 0.01μF ±20%
⚠C317	1	1	1	DK17103300	Ceramic 0.01μF ±20%
⚠C318	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C319	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C320	1	1	1	EA22802590	Elect 2200μF 25V
C321	1	1	1	DK18403320	Ceramic 0.04μF
C322	1	1	1	DF16223300	Film 0.022μF ±10%
C323	1	1	1	DF16223300	Film 0.022μF ±10%
					P100-RESISTORS
					(All resistors are ±5% and ¼W)
R101	1	1	1	GD05100140	10Ω
R103	1	1	1	GD05103140	10KΩ
R104	1	1	1	GD05184140	180KΩ
R105	1	1	1	GD05221140	220Ω
⚠R106	1	1	1	GD05333140	33KΩ
R107	1	1	1	GD05104140	100KΩ
R108	1	1	1	GD05912140	9.1KΩ
R109	1	1	1	GD05751140	750Ω
R110	1	1	1	GD05511140	510Ω
R111	1	1	1	GD05224140	220KΩ
R112	1	1	1	GD05392140	3.9KΩ
R113	1	1	1	GD05392140	3.9KΩ
R114	1	1	1	GD05113140	11KΩ
R115	1	1	1	RA02020180	Trimming, 2KΩ Play Eq. Adj.
R116	1	1	1	RA05030090	Trimming, 50KΩ Play Level Adj.
R118	1	1	1	GD05105140	1MΩ
R119	1	1	1	GD05472140	4.7KΩ
R120	1	1	1	GD05182140	1.8KΩ
R121	1	1	1	GD05274140	270KΩ
R122	1	1	1	GD05564140	560KΩ
R123	1	1	1	GD05274140	270KΩ
R124	1	1	1	GD05473140	47KΩ
R125	1	1	1	GD05332140	3.3KΩ
R126	1	1	1	GD05181140	180Ω
R127	1	1	1	GD05104140	100KΩ
⚠R128	1	1	1	GF05561140	560Ω
R129	1	1	1	GF05681140	680Ω
R135	1	1	1	GD05333140	33KΩ
R136	1	1	1	GD05105140	1MΩ
R137	1	1	1	GD05182140	1.8KΩ
R138	1	1	1	GD05112140	1.1KΩ
R139	1	1	1	GD05272140	2.7KΩ
R140	1	1	1	GD05561140	560Ω
R141	1	1	1	GD05102140	1KΩ
R142	1	1	1	GD05333140	33KΩ
R143	1	1	1	GD05104140	100KΩ
R144	1	1	1	GD05681010	680Ω 1W
R145	1	1	1	RA02020180	Trimming, 2KΩ Meter Adj.
R146	1	1	1	GD05121140	120Ω
R147	1	1	1	GD05152140	1.5KΩ
R148	1	1	1	RA05020160	Trimming, 5KΩ Rec. Level Adj.
R149	1	1	1	GD05103140	10KΩ
R150	1	1	1	GD05561140	560Ω

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
R151	1	1	1	GD05103140	10KΩ
R152	1	1	1	GD05564140	560KΩ
R153	1	1	1	GD05473140	47KΩ
R154	1	1	1	GD05153140	15KΩ
R155	1	1	1	GD05102140	1KΩ
R156	1	1	1	GD05272140	2.7KΩ
R157	1	1	1	GD05103140	10KΩ
R158	1	1	1	GD05220140	22Ω
R159	1	1	1	GD05221140	220Ω
R160	1	1	1	RA05030010	Trimming, 50KΩ Bias Adj.
R161	1	1	1	GD05104140	100KΩ
R164	1	1	1	GD05270140	27Ω
R168	1	1	1	GD05102140	1KΩ
R170	1	1	1	GD05561140	560Ω
R201	1	1	1	GD05100140	10Ω
R203	1	1	1	GD05103140	10KΩ
R204	1	1	1	GD05184140	180KΩ
R205	1	1	1	GD05221140	220Ω
⚠R206	1	1	1	GD05333140	33KΩ
R207	1	1	1	GD05104140	100KΩ
R208	1	1	1	GD05912140	9.1KΩ
R209	1	1	1	GD05751140	750Ω
R210	1	1	1	GD05511140	510Ω
R211	1	1	1	GD05224140	220KΩ
R212	1	1	1	GD05392140	3.9KΩ
R213	1	1	1	GD05392140	3.9KΩ
R214	1	1	1	GD05113140	11KΩ
R215	1	1	1	RA02020180	Trimming, 2KΩ Play Eq. Adj.
R216	1	1	1	RA05030090	Trimming, 50KΩ Play Level Adj.
R218	1	1	1	GD05105140	1MΩ
R219	1	1	1	GD05472140	4.7KΩ
R220	1	1	1	GD05182140	1.8KΩ
R221	1	1	1	GD05274140	270KΩ
R222	1	1	1	GD05564140	560KΩ
R223	1	1	1	GD05274140	270KΩ
R224	1	1	1	GD05473140	47KΩ
R225	1	1	1	GD05332140	3.3KΩ
R226	1	1	1	GD05181140	180Ω
R227	1	1	1	GD05104140	100KΩ
⚠R228	1	1	1	GF05561140	560Ω
R229	1	1	1	GF05681140	680Ω
R235	1	1	1	GD05333140	33KΩ
R236	1	1	1	GD05105140	1MΩ
R237	1	1	1	GD05182140	1.8KΩ
R238	1	1	1	GD05112140	1.1KΩ
R239	1	1	1	GD05272140	2.7KΩ
R240	1	1	1	GD05561140	560Ω
R241	1	1	1	GD05102140	1KΩ
R242	1	1	1	GD05333140	33KΩ
R243	1	1	1	GD05104140	100KΩ
R244	1	1	1	GJ05681010	680Ω 1W
R245	1	1	1	RA02020180	Trimming, 2KΩ Meter Adj.
R246	1	1	1	GD05121140	120Ω
R247	1	1	1	GD05152140	1.5KΩ
R248	1	1	1	RA05020160	Trimming, 5KΩ Rec Level Adj.

- A: SD1015(N)
- B: SD1015R(N)
- C: SD1015R(A)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
R249	1	1	1	GD05103140	10KΩ
R250	1	1	1	GD05561140	560Ω
R251	1	1	1	GD05103140	10KΩ
R252	1	1	1	GD05564140	560KΩ
R253	1	1	1	GD05473140	47KΩ
R254	1	1	1	GD05153140	15KΩ
R255	1	1	1	GD05102140	1KΩ
R256	1	1	1	GD05272140	2.7KΩ
R257	1	1	1	GD05103140	10KΩ
R258	1	1	1	GD05220140	22Ω
R259	1	1	1	GD05221140	220Ω
R260	1	1	1	RA05030010	Trimming, 50KΩ Bias Adj.
R261	1	1	1	GD05104140	100KΩ
R264	1	1	1	GD05270140	27Ω
R268	1	1	1	GD05102140	1KΩ
R270	1	1	1	GD05561140	560Ω
R301	1	1	1	GJ05102010	1KΩ 1W
R302	1	1	1	GD05154140	150KΩ
R303	1	1	1	GD05101140	100Ω
R304	1	1	1	GD05471140	470Ω
R305	1	1	1	GA05681020	680Ω 2W
R306	1	1	1	GA05271020	270Ω 2W
R307	1	1	1	GD05333140	33KΩ
R308	1	1	1	GD05333140	33KΩ
R309	1	1	1	GD05470140	47Ω
R311	1	1	1	GJ05182010	1.8KΩ
⚠R312	1	1	1	GA05100010	10Ω 1W
⚠R313	1	1	1	GA05471010	470Ω 1W
⚠R314	1	1	1	GA05331010	330Ω 1W
					P100-SEMICONDUCTORS
Q101	1	1	1	HT326341T0	Transistor, 2SC2634(T)
Q102	1	1	1	HT326341T0	Transistor, 2SC2634(T)
Q103	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q104	1	1	1	HT309001E0	Transistor, 2SC900(E)
Q105	1	1	1	HC10001360	IC, LM1011AN
Q106	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q107	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q108	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q109	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q110	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q115	1	1	1	HD10003020	Diode, 2OA90
Q116	1	1	1	HD10003020	Diode, 2OA90
Q201	1	1	1	HT326341T0	Transistor, 2SC2634(T)
Q202	1	1	1	HT326341T0	Transistor, 2SC2634(T)
Q203	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q204	1	1	1	HT309001E0	Transistor, 2SC900(E)
Q205	1	1	1	HC10001360	IC, LM1011AN
Q206	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q207	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q208	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q209	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q210	1	1	1	HT326341S0	Transistor, 2SC2634(S)
Q215	1	1	1	HD10003020	Diode, 2OA90
Q216	1	1	1	HD10003020	Diode, 2OA90
Q301	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q302	1	1	1	HT404002B0	Transistor, 2SD400(E.F)
Q303	1	1	1	HT404002B0	Transistor, 2SD400(E.F)
⚠Q304	1	1	1	HT403131E0	Transistor, 2SD313(E)

REF. DESIG.	Q'TY A	B	C	PART NO.	DESCRIPTION
Q305	1	1	1	HD30021060	Zener, RD1EB-2
Q306	1	1	1	HD20016030	Diode, DS-448
⚠Q307	1	1	1	HD20012030	Diode, DS132B
⚠Q308	1	1	1	HD20011030	Diode, DS131B
⚠Q309	1	1	1	HD30020060	Zener, RD20EB-2
⚠Q310	1	1	1	HD20012030	Diode, DS132B
⚠Q311	1	1	1	HD20011030	Diode, DS131B
					P100-SWITCHES
S101	1	1	1	SS09020120	Slide Switch, Rec/Play
S201	1	1	1	SS09020120	Slide Switch, Rec/Play
S301	1	1	1	SP08030130	Push Switch, Eq.
S302	1	1	1	SP08030130	Push Switch, Bias
S304	1	1	1	SP08030130	Push Switch, Dolby Nr
					P100-COILS
L101	1	1	1	LC23660030	Choke Coil, 36mH, Bias Trap
L102	1	1	1	LS70305010	M.P.X. Coil, 19kHz, Trap
L103	1	1	1	LC24750040	Choke Coil, 4.7mH, Rec Eq.
L104	1	1	1	LC22260510	Choke Coil, 22mH, Bias Trap
L201	1	1	1	LC23660030	Choke Coil, 36mH, Bias Trap
L202	1	1	1	LS70305010	M.P.X. Coil, 19kHz, Trap
L203	1	1	1	LC24750040	Choke Coil, 4.7mH, Rec Eq.
L204	1	1	1	LC22260510	Choke Coil, 22mH, Bias Trap
L301	1	1	1	TC10180110	OSC Transf.
P300	1	1	1	YK301S1330	P.W. Board, Switch
C151	1	1	1	DF15223300	Film Cap. 0.022μF ±5%
C251	1	1	1	DF15223300	Film Cap. 0.022μF ±5%
R163	1	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
R263	1	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
					P200-FUSE CIRCUIT BOARD
P200	1	1	1	YK301S1320	P.W. Board, Fuse
	1	1	1	ZZ301S8320	P.W. Board Assembly
⚠F401	1	1	1	FS10040800	Fuse, 400MAT Semko
⚠F402	1	1	1	FS10040800	Fuse, 400MAT Semko
⚠F403	1	1	1	FS10140800	Fuse, 1.4AT Semko
J401 ~ J406	6	6	6	YP10001130	Plug
J407 ⚠ ~ J412	6	6	6	YJ08000200	Jack, Fuse Clip
P105	8	8	8	2933118020	Spacer
P107	6	6	6	3444118050	Spacer

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

7. GENERAL SPECIFICATIONS

Style	Front Load
Tape Drive System	Single Capstan Drive
Cartidge	Philips Type Compact Cassette
Track System	Compatible Stereo 4 Track 2 Channel
Tape Speed	1-7/8 ips (4.8 cm/sec.)
Head	R/P – Super Hard Permalloy, Erase-Ferrite
Motor	DC Servo Controlled Motor x 1
Meters	VU Type x 2
Recording System	AC Bias
Erasing System	AC Erase
Semiconductors	
Transistors	22
IC's	2
Diodes	11
LED's	1
Mic Input Sensitivity	
Level	–72 dBV
Impedance	10 kohms
Line Input Sensitivity	
Level	–32 dBV
Impedance	100 kohms
Headphone Output	
Level	43 mV
Impedance	100 ohms
Line Output	
Level	620 mV (0 VU)
Impedance	3.3 kohms
Fast Rewind Time	105
Fast Forward Time	105
Power Requirements	N Version, 220 V AC, 50 Hz A Version 240V
Power Consumption	13 Watts
Dimensions (W x H x D)	16-3/8" x 5-3/4" x 9-5/8"
Weight	12 lbs. 8 oz.